An Exploration of the Technology Enhanced Tourist Experience

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ABSTRACT

The notion of creating unique and memorable experiences for consumers has become of primary importance for tourism research and practice. The way contemporary tourist experiences are created has however undergone a fundamental change. Experiences are transforming as consumers are increasingly empowered to co-create their own experiences. Information and communication technologies (ICTs) have represented a catalyst of change that has opened unprecedented possibilities for tourist experience creation and enhancement. While the literature has recognised these paradigm shifts within the service-dominant logic and the services marketing and management discipline, a holistic understanding of this phenomenon is still missing to date. This doctoral study therefore aims to explore how the tourist experience can be enhanced by ICTs through company-consumer experience co-creation, throughout all stages of the travel process, i.e. pre/during/post travel.

This thesis integrates the three theoretical streams of tourist experience, co-creation and ICTs to explore, conceptualise and develop the *Technology Enhanced Tourist Experience* concept. A comprehensive qualitative mixed methods strategy comprising three main research phases was adopted, consisting of a) a qualitative content analysis, b) a multiple case study and c) semi-structured consumer in-depth interviews to triangulate the findings and allow for a holistic knowledge development. The most significant findings contribute to knowledge by offering a) a comprehensive understanding of the granular elements of the tourist experience, b) both a company and consumer actor perspective on experience co-creation, c) a detailed enhancement process of the tourist experience through ICTs and d) a holistic model depicting the twelve distinct factors of the Technology Enhanced Tourist Experience.

This study makes an original contribution to the services marketing and management discipline on a wider level and the three theoretical streams in specific. This thesis is significant and original in that it is the first study to explore the Technology Enhanced Tourist Experience and to create a theoretical foundation of this concept. The strength of this work thus lies in developing several conceptualisations and models that advance the service-dominant logic and provide critical strategic implications for services marketing and management practice. This knowledge has also wider implications and makes an impact on a global business, societal, technological and policy level beyond.

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LIST OF ABBREVIATIONS AND ACRONYMS

AR	Augmented Reality
B2C	Business to Consumer
CA	Content Analysis
CBS	Context Based Service
DMO	Destination Management Organisation
ICTs	Information and Communication Technologies
IoT	Internet of Things
MMR	Mixed Methods Research
PC	Personal Computer
P-D	Product-Dominant (Logic)
POI	Point of Interest
QR	Quick Response (Code)
QSR	QSR International Pty Ltd
ROI	Return on Investment
S-D	Service-Dominant (Logic)
SLR	Single-Lens Reflex (Camera)
STD	Smart Tourism Destinations
TETE	Technology Enhanced Tourist Experience
UK	United Kingdom
US	United States of America
VFR	Visiting Friends and Relatives
WoM	Word of Mouth
WPM	Words per Minute

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The journey towards the completion of this thesis has been exciting, intense and challenging, but at the same time, very rewarding, both professionally and personally. My continuous commitment to and passion for this study have been invaluable to help me overcome every hurdle, in particular, when times were hard. While I never doubted my ability to complete this thesis, I could not have done so without the precious guidance and support from a number of people. To all of those who I am about to mention goes my most profound gratitude.

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LIST OF PUBLICATIONS

Several articles have been published in relation to this thesis to date.

Journal Articles:

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Book Chapters:

Neuhofer, B. Forthcoming, 2015. Innovation through co-creation: Towards an understanding of technology-facilitated co-creation processes in tourism. In: Egger, R., Gula, I., Walch, D. (eds.) *Open Tourism: Open Innovation, Crowdsourcing and Collaborative Consumption challenging the tourism industry*.

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Professional Industry Reports:

Neuhofer, B. and Buhalis, D. 2013. Technology enhanced tourism experiences: 10 best practice examples explained. *Digital Tourism Think Tank*. Accessible: http://thinkdigital.travel/best-practice/technology-enhanced-tourism-experiences/.

CHAPTER 1: INTRODUCTION

1.1 *Background of the Study*

In recent years consumers have been increasingly in search of experiences (Pine and Gilmore, 1999). People not only seek to buy products and services but rather want to buy into the experiences that are delivered by the consumption of products and services (Morgan et al., 2010). In the 1990s, the experience economy was the seminal proposition by Pine and Gilmore (1999). It emerged as a premise in a market where global competition and technologies have turned products and services into commodities and competitive advantage could only be gained by providing consumers with unique and memorable experiences.

The notion of creating rich and memorable experiences for consumers has become a prevalent concept in the tourism industry. While the tourist experience has been an integral part of tourism research and production since the 1960s (Uriely, 2005), it has only received considerable attention among scholars at the turn of the 21st century. This has been reflected in a wealth of recent literature, attesting the unabated relevance of the concept in theory and practice (Carmichael, 2005; Uriely, 2005; Jennings and Nickerson, 2006; Tussyadiah and Fesenmaier, 2009; Cutler and Carmichael, 2010; Morgan et al., 2010; Ryan, 2010; Tung and Ritchie, 2011; Frochot and Batat, 2013; Sfandla and Björk, 2013; Dalonso et al., 2014; Sørensen and Jensen, 2015).

Due to the dynamic nature of consumer society and industry, tourist experience creation has been undergoing enormous change. This has been characterised by two major paradigm shifts that have fundamentally challenged its current theoretical foundation. First, the economically-driven idea of staging and delivering experiences has been questioned, as consumers have become increasingly active and powerful in the process of creating experiences. With recent advances in services marketing and management and the emergence of the service-dominant (S-D) logic, the concept of co-creation has been formed. It has offered new principles, which recognise companies and consumers as co-creators of experiences and value (Ramaswamy, 2009b; Lusch and Vargo, 2014). Co-creation is based on the central premise of a convergence of production and consumption. It acknowledges experience creation as an interactive process that allows

companies and consumers to engage in creating experiences and value together (Vargo and Lusch, 2004).

While the concept of co-creation has been widely embraced within the services marketing and management domain (Etgar, 2008; Baron and Harris, 2010; Baron and Warnaby, 2011; Grönroos and Ravald, 2011), the application to the field of tourism has been rather limited to date (Binkhorst and Den Dekker, 2009). Consumer participation is not a new theoretical concept but it has been discussed for many years in the experiential domain. Co-creation in its truest meaning, i.e. consumers being actively involved in co-creating products, services or experiences with the companies, is however still scarce (Frochot and Batat, 2013). Previous literature advocates the need for further theoretical advancement within the S-D logic (Lusch and Vargo, 2014) and the discussion and application of co-creation discourses in tourism. In fact, tourism constitutes one of the biggest experience generating industries in the world (Binkhorst and Den Dekker, 2009). It is thus pivotal to identify the underlying processes towards an integrated and holistic understanding of how exactly co-creation of contemporary tourist experiences and value takes place (Frochot and Batat, 2013).

The second paradigm shift illuminates that tourist experiences are not only increasingly co-created but also technology-mediated (Tussyadiah and Fesenmaier, 2009). The proliferation of ICTs has had a massive impact on society, industries and people's everyday lives (Crouch and Desforges, 2003) and changed the nature of the tourism industry. The implementation of ICTs in tourism per se is not a new phenomenon (Buhalis, 1998). In fact, the industry has gone hand in hand with technology and embraced its potential over several decades (Buhalis and Law, 2008). What has however significantly changed is that technology has revolutionised the way in which travel is planned, business is conducted (Buhalis and Jun, 2011; Leung et al., 2013) and, particularly, tourism services and experiences are created and consumed (Stamboulis and Skayannis, 2003; Tussyadiah and Fesenmaier, 2009). Particularly social and mobile ICTs have empowered consumers (Sigala, 2009) and created new possibilities to support tourists and tourist experiences (Xiang and Gretzel, 2010) with any device, anywhere and anytime (Wang et al., 2012).

ICTs have transformed the nature of the tourist experience (Tussyadiah and Fesenmaier, 2009; Wang et al., 2012; Wang et al., 2013). They have become integral instruments that accompany the tourist throughout all stages, i.e. prior/during/post of the journey

(Gretzel and Jamal, 2009; Tussyadiah and Fesenmaier, 2009). In this capacity, ICTs function as a potential *catalyst of change* that has not only changed traditional tourist experiences but has offered opportunities for new types of tourist experiences to be created. Particularly with the dynamic developments of emerging technologies, such as the Web 2.0, smartphones and mobile applications (Fotis et al., 2011; Sigala, 2012a; Schmidt-Rauch and Schwabe, 2013), ICTs can be integrated as a resource that facilitates tourist activities and experience co-creation on numerous levels. As a result, tourist experiences can become richer and more participatory (Gretzel and Jamal, 2009), immersive (Guttentag, 2010) and augmented-reality facilitated (Yovcheva et al., 2013).

With the prevalent paradigm shifts towards consumers as co-creators and proliferating technologies, it has become evident that the traditional roles, structures and processes of tourist experience creation have undergone a substantial change. As a result, scholars have questioned the existing theoretical foundation of the tourist experiences (Gretzel and Jamal, 2009) and advocate the importance to capture these changes (Huang and Hsu, 2010; Tussyadiah, 2014). Thereby it is not the technological development itself, but rather the integration of technology, as a resource, into experiences, which is at the core of interest (Darmer and Sundbo, 2008; Akaka and Vargo, 2014). While scholarship has widely recognised these recent changes, several studies highlight the presence of prevailing gaps in understanding the role of ICTs and the need for further theoretical advancement of the subject (Tussyadiah and Fesenmaier, 2007; Tussyadiah and Fesenmaier, 2009; Wang et al., 2012).

In an attempt to advance discourses in this domain, a number of studies have explored the impact of specific technologies on the tourist experience, such as the Internet and virtual worlds (Kohler et al., 2011), blogs and micro-blogging (Wang and Fesenmaier, 2004), social media and networking platforms (Xiang and Gretzel, 2010; Fotis et al., 2011; Xiang et al., 2014) and smartphones (Wang et al., 2012; Wang et al., 2013; Wang et al., 2014a). What these studies however commonly lack is the adoption of a holistic view that explores how the integration of a whole spectrum of ICTs can potentially transform the creation and conceptualisation of tourist experiences. Moreover, studies within the S-D logic have only recently started to integrate technology in the debate of value co-creation. Recent work has remained largely of conceptual nature, by discussing the impact of information technology on value co-creation (Heiskala et al., 2011),

technology as an operant resource (Akaka and Vargo, 2014) and online brand community value creation practices (Schau et al., 2009).

In synthesising the current gaps in knowledge, it appears that there is need for further exploration and re-conceptualisation of the tourist experience construct. Specifically, a better understanding is needed in light of how the tourist experience can potentially be a) co-created (Prebensen and Foss, 2011; Prebensen et al., 2013) b) technology-mediated (Tussyadiah and Fesenmaier, 2009; Wang et al., 2012). This thesis therefore raises the need to consider these recent advances and amalgamates the three theoretical streams of 1) *the tourist experience*, 2) *experience co-creation* and 3) *ICTs* into one study. In adopting a service-dominant logic lens, as the underpinning theoretical perspective, it interlinks these streams in exploration of a new and original type of tourist experience, the *Technology Enhanced Tourist Experience*.

1.2 *Relevance and Rationale for the Study*

The relevance and rationale for this research are grounded in the knowledge gaps within four main areas identified in the literature. This section outlines the need for research in these areas, which include 1) the *tourist experience*, 2) *experience co-creation*, 3) *ICTs* and 4) the need for a *holistic understanding* of the *Technology Enhanced Tourist Experience*.

1.2.1 Need for Research: Theoretical Framework of the Tourist Experience

The notion of experience has constituted a highly relevant concept in tourism production and research since the 1960s (Uriely, 2005). This has been reflected in the widespread interest received from academia and the industry over the past five decades (Ritchie and Hudson, 2009; Volo, 2009). Recently, the concept has received a renewed interest, which has been manifested in the emergence of a wide range of knowledge contributions on the subject (Jennings and Nickerson, 2006; Darmer and Sundbo, 2008; Morgan et al., 2010; Ryan, 2010; Tung and Ritchie, 2011; Wang et al., 2013; Kim, 2014). Despite numerous seminal studies that explain the types, dimensions and stages of the tourist experience, further research on the subject is needed (Page and Connell, 2009; Ritchie and Hudson, 2009; Kim et al., 2011). This is mainly because the tourist

experience is still under-researched and constitutes one of the least explored areas in tourism research (Larsen, 2007).

Further knowledge about the nature and the creation of consumer experiences on both theoretical and managerial levels is needed (Zehrer, 2009; Murray et al., 2010). Of particular relevance is the understanding of how to facilitate enhanced consumer experiences (Palmer, 2010). Closing these gaps can contribute relevant practical knowledge that can help not only tourism destinations but the services marketing and management context at large (Volo, 2009; Frochot and Batat, 2013). This study thus has the purpose to revisit and advance the existing theoretical foundations of the tourist experience to provide a theoretically rich and practically relevant contribution to understanding, facilitating and managing tourist experiences. It addresses this purpose by a) identifying the granular elements that constitute the tourist experience to develop a holistic understanding of the theoretical framework of the tourist experience, before going on to b) conceptualising and empirically exploring a new specific type of tourist experience, entitled the *Technology Enhanced Tourist Experience*.

1.2.2 Need for Research: Experience Co-Creation Theory

Within services marketing and management a recent paradigm shift towards the S-D logic occurred. This has had major implications on the creation of experiences, which has moved away from economic and firm-centric principles towards more consumer-oriented experience co-creation. Instead of companies staging and delivering experiences (Pine and Gilmore, 1999), experiences and value are co-created through a conjoint resource integration by companies and consumers (Edvardsson et al., 2011; Grönroos, 2011; Ramaswamy, 2011; Vargo and Akaka, 2012). Co-creation practices, in their truest meaning of consumers being actively involved to co-create products, services and experiences with companies, are however still rather scarce to date (Frochot and Batat, 2013). While the concept has become advocated throughout a number of industries, its application in tourism is still rare. Only recently, an emerging body of literature has initiated to introduce the concept of co-creation to tourism (Shaw et al., 2011; FitzPatrick et al., 2013; Sfandla and Björk, 2013; Rihova et al., 2014).

Drawing upon the latest research in the field, this study seeks to contribute on several levels. First, it adopts co-creation, rather than its predecessor notion, the experience economy, as the underlying theoretical construct. It also applies the concept to tourism

as a highly relevant, albeit to date only marginally conceptually and empirically explored, context of co-creation. By linking it with ICTs, this study further advances knowledge in the S-D logic and experience co-creation domains by contributing findings in a technology-mediated context. It identifies the specific actors, explains the detailed resource integration, experience co-creation and enhancement processes through ICTs and finally reveals distinct experience and value outcomes that emerge. By doing so, it is in line with recent research (Rihova, 2014) advocating the need for more comprehensive endeavours that, beyond identifying co-creation processes and practices, push knowledge boundaries to uncover specific types of value and experience outcomes. As a result, this study not only adds to the theoretical foundations of experience co-creation in tourism specifically, but also extends S-D logic discourses in the field of ICTs and the services marketing and management domain more widely.

1.2.3 Need for Research: ICTs in Tourist Experience and Co-Creation

Given the recent impact of ICTs on the tourist experience and experience co-creation, its nature, design and creation have significantly changed. A better understanding of the role of ICTs in the tourist experience is thus paramount. This is of particular importance because many existing conceptualisations, categories and components of the tourist experience do no longer apply with technology in place (Gretzel and Jamal, 2009). While recent scholarship has acknowledged the impact of ICTs on experiences, empirical research exploring this impact *holistically* has been scarce. In fact, only most recently, the subject of ICTs mediating tourist experiences has attracted major attention (McCabe et al., 2012; Wang et al., 2012; Kim and Tussyadiah, 2013; Wang et al., 2013; Yovcheva et al., 2013; Munar and Jacobsen, 2014).

Thereby, most existing work seems to have recognised the impact of ICTs (Prahalad and Ramaswamy, 2004b; Ramaswamy, 2009a) and analysed the impact of specific types of technologies on the tourist experience, e.g. online-shared videos (Tussyadiah and Fesenmaier, 2009) and the smartphone (Wang et al., 2014b). What appears missing is a study that examines how the integration of a plethora of ICTs can enhance and potentially lead to a new type of tourist experience. Moreover, the role of technology in the S-D logic and co-creation context is still limited. Further knowledge is needed to understand how specifically ICTs can be used for resource integration (Karpen et al., 2012). This study aims to fill the existing knowledge gaps within ICTs by developing a

holistic understanding of the range of ICTs that are integrated as a resource for the co-creation of a *Technology Enhanced Tourist Experience*.

1.2.4 Need for a Holistic Understanding: Technology Enhanced Tourist Experience

Despite the wide impact of ICTs on the tourist experience (Tussyadiah and Zach, 2011; Wang et al., 2013; Munar and Jacobsen, 2014; Tussyadiah, 2014), there are still major shortcomings in the literature addressing this change from a *holistic perspective*. Aside from a few exceptions, there is a dearth of conceptual and empirical work that integrates *experiences* and *ICTs* (Wang et al., 2012; Wang et al., 2013) and interlinks the notion of *experience co-creation* and *ICTs* (Schau et al., 2009; Akaka and Vargo, 2014). A study that integrates all these components appears to be missing to date.

It is with all the above reviewed research gaps in mind, that this study is the first to combine the three streams of the tourist experience, co-creation and ICTs into one study. It not only conceptually and empirically explores these areas but also integrates these to develop a novel concept, the *Technology Enhanced Tourist Experience*. This approach allows for an integrated understanding of technology enhanced experience co-creation, enhancement processes as well as experience factors and outcomes.

1.3 *Theoretical Foundation, Scope and Context of the Study*

This research is embedded in, and seeks to make a contribution to, the services marketing and management discipline. Within this discipline, the S-D logic is adopted as the theoretical lens through which the *Technology Enhanced Tourist Experience* is explored. This section starts by outlining the theoretical foundation of this study. It then defines the scope and context by explaining what research areas lie within, and importantly, beyond the scope of the study.

1.3.1 Services Marketing and Management Discipline

Services marketing and management has taken shape as a discipline in response to an increasing consumer orientation and recognition of the changing role of the consumer (Vargo and Lusch, 2004; Vargo et al., 2006; Cova and Dalli, 2009; Palmer, 2010). It initially emerged as a discipline that introduced these marketing principles to service dominant sectors (Palmer et al., 2005). The services marketing and management domain

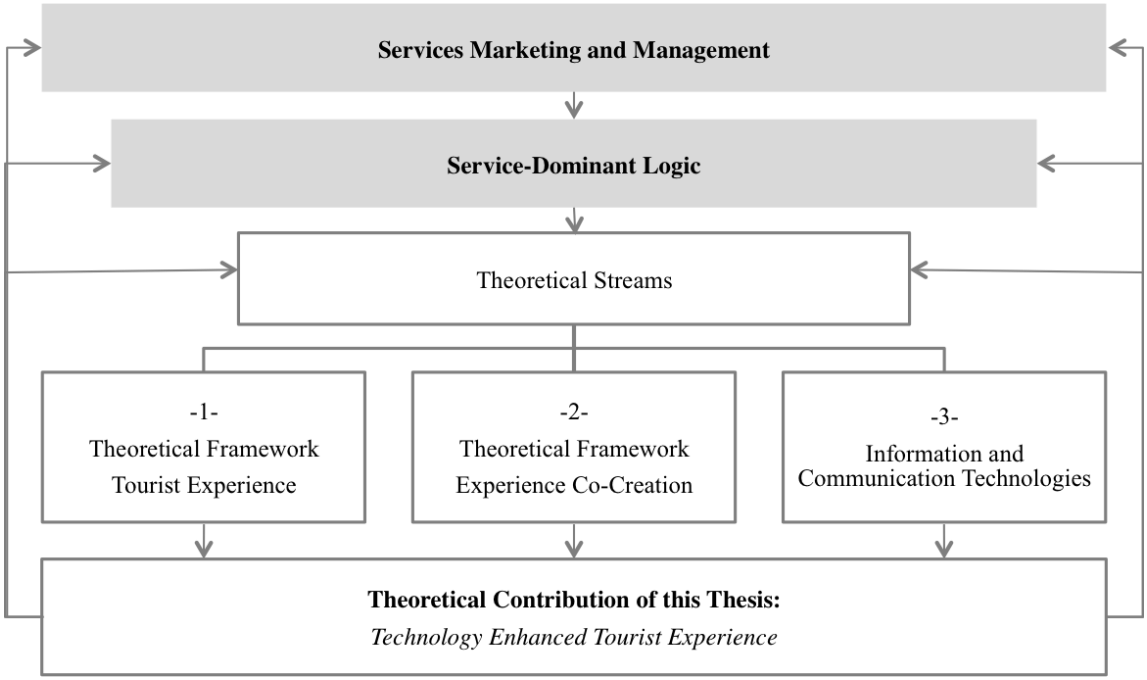
has undergone a significant change over the past six decades (Vargo and Lusch, 2004; Vargo et al., 2006). The foundations of the contemporary marketing thought are grounded in the production and manufacturing era. In the 1950s this has progressively moved towards a more consumer centred perspective with the scope to satisfy consumer wants and needs (Vargo et al., 2006).

As consumers have become more connected, informed and knowledgeable, emerging marketing philosophies suggested that companies and consumers are no longer separate entities in a rigid exchange process. Rather, they take the role of co-creators in the service process (Prahalad and Ramaswamy, 2004b). This shift in thinking called for a mutual and reciprocal relationship between companies and consumers, through which experiences and value could be created (Vargo and Lusch, 2004; Vargo et al., 2008). The movement towards consumer involvement has led to a new era in services marketing and management, shaped by the principles of the service-dominant logic.

This study builds its theoretical foundations on three main streams, as outlined above. By interlinking these hitherto separate concepts and embedding them into the larger perspective of the S-D logic, the contribution of the study addresses a wider scope. It not only fills knowledge gaps in each research stream, but also reaches beyond the theoretical boundaries of each domain. The S-D logic offers a theoretical perspective that lends the necessary theoretical underpinning to explore how the tourist experience can be enhanced by integrating ICTs. Beyond that, the study makes a far-reaching contribution by conceptualising the *Technology Enhanced Tourist Experience*, which can be situated in, and has theoretical and practical implications for, the wider services marketing and management discipline.

The theoretical foundation of this study is graphically depicted in Figure 1-1. It shows the services marketing and management discipline (*overall discipline*), the S-D logic (*theoretical lens*) and the embedded three theoretical streams this study is based upon. The final theoretical contribution of this thesis, the *Technology Enhanced Tourist Experience*, adds new and original knowledge, which through a ‘feedback loop’ flows back into the respective literature streams and the wider discipline.

Figure 1-1. Theoretical Foundation of the Study



Source: Author

1.3.2 Scope and Context of the Study

The specific scope and context of this research are discussed and accentuated below. Such a discussion has important implications in shaping the knowledge contributions of the study. A reflective approach was thus necessary to address several questions and consider possible implications of delineating the scope of the study. In essence, this thesis seeks to explore the concept of the *Technology Enhanced Tourist Experience*. Due to its originality in being the first study to name, conceptualise and explore this concept, the focus lies on a holistic qualitative in-depth exploration. The empirical testing of the developed model by quantitative means thus goes beyond the scope of this study and is left for future research. With respect to the theoretical frameworks and methodological approaches, several decisions had to be taken to determine the comprehensiveness and boundaries of the research.

Within the services marketing and management discipline, this study is specifically embedded in the *context of tourism*. Given the numerous experience conceptualisations from a variety of scientific disciplines (e.g. psychology, anthropology, consumer behaviour and leisure), the scope is limited to the tourist experience, rather than related concepts, such as the consumer experience, leisure experience or heritage experience. With the tourist experience at the core, a clear focus can be provided and maintained.

As such, the theoretical contribution is situated within the stream of the tourist experience, while a wider generalisation to experience concepts might be limited. The findings might only be transferable to the degree that an experience possesses the same, or similar, features and occurs in a similar context to tourism.

Second, it was critical to recognise the tourist experience as a *multi-phase phenomenon*. This means that an experience not only occurs at the actual service encounter on-site, but also extends to the pre-travel and post-travel stages. As such, it is necessary to widen the scope, and in doing so, extending the comprehensiveness of the study. Only the inclusion of three travel stages (pre/during/post) allows for a holistic empirical exploration and relevant contribution to tourist experience theory.

The third decision was based around the question of whether or not to limit the focus to specific *types of holidays* (e.g. leisure or business), *travel parties* (e.g. tourists travelling alone or in groups) or *geographical contexts* (e.g. domestic or international travel). By taking an inductive exploratory approach to understand a new phenomenon, it is advocated not to limit the research to such specific variables. Instead, a holistic approach is deemed as most appropriate to shed light on potential variables that could influence the nature and creation of the *Technology Enhanced Tourist Experience*. Such an approach not only contributes to the development of an in-depth understanding, but also provides a relevant basis for future research to further investigate specific variables.

The fourth contemplation regards the scope and the consequent methodological implications with respect to *experience co-creation*. While it is acknowledged that multiple actors can engage in co-creation within the wider service (eco)-system, it is the joint co-creation between companies and consumers that is at the locus of this empirical exploration. While more extended co-creation processes among companies, consumers and stakeholders are recognised, the data collection prioritises the generation of a dual company-consumer actor perspective. This allows for a balanced understanding of the companies' and the consumers' roles as actors, resource integrators and co-creators of the *Technology Enhanced Tourist Experience*.

With respect to the *scope of technology*, this study's focus is placed on information and communication technologies specifically. While a range of generic technology in the fields of computing, manufacturing, engineering and transportation is acknowledged, it is the impact of ICTs on the tourist experience and experience co-creation, which is of

main interest. Within the ICTs domain, this study adopts a holistic integrative approach. This means that it does not limit its scope to one single application, device or specific platform (e.g. Facebook, TripAdvisor, mobile applications or smartphones). Instead, it includes the whole spectrum of available ICTs used by tourism companies and consumers in the co-creation of the tourist experience throughout the travel process.

Limiting the scope to specific ICTs would not only limit the generalisability of the findings, but could also cause a high risk of obsolescence, in case specific ICTs platforms are discontinued or overhauled. Lastly, a common debate within the field of technology regards the discussion of the detrimental effects of ICTs use on experiences. While this represents a commonly raised and highly relevant concern worth exploring, it is beyond the scope of this particular study. The primary interest of this work is in the positive facilitation and enhancement of experiences through ICTs.

1.4 *Research Aim, Questions and Objectives*

To explore the *Technology Enhanced Tourist Experience*, the overall aim of this thesis is defined as following:

Overall Research Aim

To explore how tourist experiences can be enhanced by ICTs, through company-consumer experience co-creation, in the pre/during/post stages of the travel process

The following research questions stimulate and underpin this enquiry, see Table 1-1.

Table 1-1. Research Questions of this Study

Research Questions of this Study
RQ1: How are tourist experiences and experience co-creation changing through ICTs in the pre/during/post stages of the travel process?
RQ2: What are the granular elements of the tourist experience?
RQ3: How can the tourist experience and experience co-creation be enhanced through ICTs from a company and consumer perspective?
RQ4: What factors constitute the Technology Enhanced Tourist Experience?
RQ:5 What holistic model can be developed that captures the Technology Enhanced Tourist Experience?

Source: Author

To generate answers to the identified research questions, the following five objectives have been defined in Table 1-2. The research objectives guide all chapters of the thesis, by informing the literature review, methodology, data collection and the findings.

Table 1-2. Research Objectives of this Study

Research Objectives of this Study
RO1: To explore the changing nature of the tourist experience and the experience co-creation process in terms of the implementation of ICTs in the pre/during/post stages of the travel process
RO2: To identify the granular elements of the tourist experience
RO3: To explore the role of ICTs in enhancing the tourist experience and the experience co-creation process from a two-fold company-consumer perspective
RO4: To identify the factors that constitute a Technology Enhanced Tourist Experience
RO5: To develop a holistic theoretical model of the Technology Enhanced Tourist Experience

Source: Author

1.5 *Structural Outline of the Thesis*

Chapter 1: Introduction provides the introduction to the background of this study. It presents the relevance and rationale for the study that is grounded in four main areas, including the tourist experience, experience co-creation, ICTs and the need for a holistic understanding of the *Technology Enhanced Tourist Experience*. The theoretical foundation within services marketing and management and scope and context of the study are outlined subsequently. The chapter concludes with the presentation of the overall research aim and research questions and objectives guiding this study.

Chapter 2: Literature Review critically assesses the three theoretical streams that build the foundation of this thesis, consisting of the *theoretical framework of the tourist experience, experience co-creation theory* and *ICTs*. The chapter first analyses the tourist experience by discussing its origins, development, complexity and definitions. It goes on to examine co-creation theory through a S-D logic lens. The evolution of services marketing and management and the latest paradigm shifts within the field are discussed. The concept of experience co-creation is introduced by outlining its inherent principles and processes, before contextualising it in tourism. The chapter then turns to discuss ICTs as a driver of global change, before reviewing its definitions, progress and impact on the tourist experience and experience co-creation. The literature review chapter is concluded in that it a) illuminates the *research gaps* and b) develops a *conceptual framework* of the *Technology Enhanced Tourist Experience*.

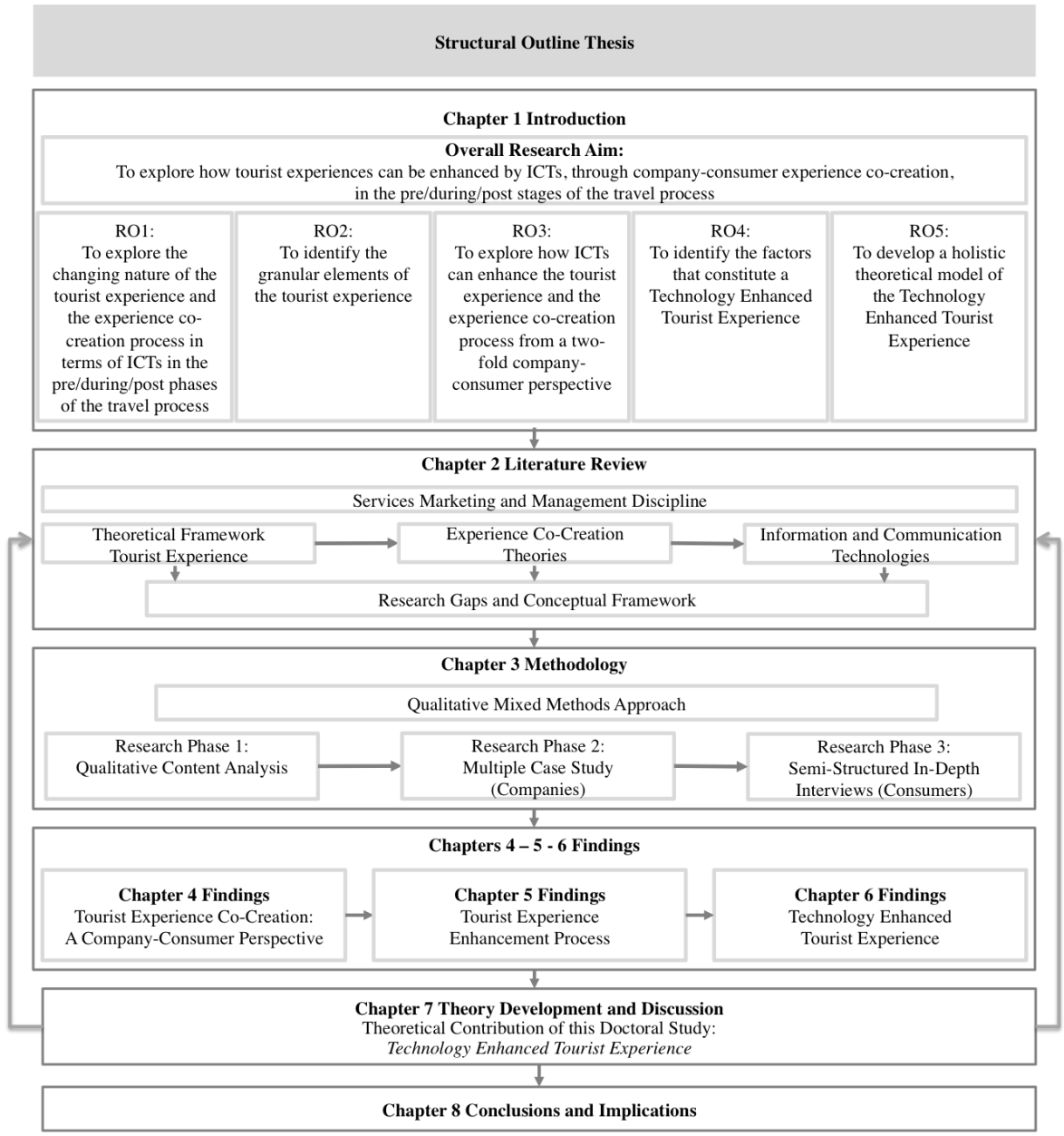
Chapter 3: Methodology explains the methodological approach and highlights the underlying methodological choices taken. The ontological and epistemological assumptions, the research paradigm of pragmatism and the adoption of a three-stage qualitative mixed methods approach are discussed. *Phase 1* consists of a content analysis of journal articles to elicit the granular elements of the tourist experience. *Phase 2* presents a multiple case study approach to understand how the tourist experience and co-creation can be enhanced through ICTs, from a company perspective. In *Phase 3*, semi-structured in-depth interviews are presented to understand how the tourist experience and co-creation can be enhanced through ICTs, from a consumer perceptive. The final section reflects upon the limitations, ethics, reliability and validity of this research and provides the structure of the Findings Chapters 4, 5 and 6.

Chapters 4, 5 and 6: Findings present the findings of the study, which are structured based on *Research Objectives*. *Chapter 4* presents experience co-creation from a two-fold company-consumer perspective and highlights co-creation actors and processes through ICTs. *Chapter 5* outlines the detailed tourist experience enhancement process and shows the inherent variables that influence the process that leads to the creation of a *Technology Enhanced Tourist Experience*. Following the presentation of the co-creation and enhancement process, *Chapter 6* is concerned with presenting the factors that constitute the *Technology Enhanced Tourist Experience*. The first part presents the granular elements of the tourist experience and outlines how these are enhanced by ICTs. The second part then turns to present the core theoretical contribution, namely the twelve overall factors that constitute the *Technology Enhanced Tourist Experience*.

Chapter 7: Theory Development and Discussion brings together the findings from Chapters 4, 5, 6 and discusses how the knowledge contributions are embedded within, and expand on, the existing literature within the respective theoretical streams. The first part revises the conceptual framework developed in Chapter 2, by integrating the findings, and develops a holistic theoretical model of the *Technology Enhanced Tourist Experience* as the core contribution of this study. The second part presents the most significant findings of the research and discusses these in relation to previous literature. The study's contributions are accentuated and compared to existing theories, and by doing so, discourses within the S-D logic, tourist experience and co-creation are advanced and revised based upon the new knowledge gained.

Chapter 8: Conclusions and Implications summarises and concludes this thesis. First, the chapter highlights how the overall research aim and each of the objectives have been achieved. In a thorough discussion, it then presents the number of contribution this thesis makes to theory, practice and management, and highlights its impact and wider implications on a global business, societal, policy and governmental level. In doing so, it demonstrates how this thesis offers novel insights and provides an original knowledge contribution, rendering it a work at a doctoral level. The thesis concludes by discussing its limitations and setting out a comprehensive agenda for future research, before offering a reflection on the researcher's personal PhD journey and providing the concluding remarks. The structural outline of this thesis is shown in Figure 1-2 below.

Figure 1-2. Structural Outline of the Thesis



Source: Author

CHAPTER 2: LITERATURE REVIEW

The *Literature Review* discusses and critically analyses in-depth the three theoretical streams this study draws upon, namely 1) the *theoretical framework of the tourist experience*, 2) *experience co-creation theory* and 3) *ICTs*. The literature review begins by establishing the theoretical foundation of the tourist experience (section 2.1). By taking an interdisciplinary approach, the conceptual origins and the historical development of the concept are established. It then presents the subjectivity, multiphasic nature and complexity of the tourist experience. This is followed by a definitional and terminological discussion, which offers a synthesised definition of the tourist experience and the terminology adopted in this study. In the second part (section 2.2), the literature review examines the experience co-creation concept, embedded within service-dominant logic discourses and the services marketing and management domain. First, its historic development, the changing role of the consumer and the recent paradigm shift towards the S-D logic are reviewed. The notion of co-creation is then defined and differentiated, and assessed in terms of its underlying principles, elements and processes inherent, before being contextualised in tourism and the field of ICTs.

This leads over to the third stream of the literature review, namely ICTs in tourism, which are introduced in section 2.3. The section first reviews the role of technology as a driver of global change, provides a definition and classification of ICTs and establishes the progress of ICTs in the context of tourism. In examining a plethora of ICTs, the four main drivers that render ICTs a 'catalyst of change' are identified and discussed. The final section bridges the gap between the tourist experience, co-creation and ICTs, in that it conceptualises ICTs as a resource, before analysing its integration in the three stages of the tourist experience. The literature review chapter is concluded by identifying the research gaps that emerge from the literature and this study subsequently aims to address (section 2.4). The last section presents the core contribution that emerges from the literature review, which is the conceptual framework of the *Technology Enhanced Tourist Experience* (section 2.5). It amalgamates the three theoretical streams of this study and has the purpose to provide the conceptual underpinning that centrally guides this thesis.

2.1 *Theoretical Framework of the Tourist Experience*

The tourist experience provides the theoretical framework to which this study makes its main contribution by developing the *Technology Enhanced Tourist Experience*. First noted in the 1960s, the notion of experience has been widely discussed and has multiple embedded meanings (Uriely, 2005). While the tourist experience has been the focus of attention in numerous scientific disciplines, one all-encompassing 'tourist experience theory' is missing to date.

> *"There is no single theory that defines the meaning and extent of tourist experiences, although a number of authors have made attempts to formulate models by generalizing and aggregating information"* (Chhetri et al., 2004, p.34).

Only a dearth of studies has attempted to conceptualise the tourist experience from a holistic perspective (Ritchie and Hudson, 2009; Cutler and Carmichael, 2010; Ryan, 2010; Kim et al., 2011). In presenting multitudinous phases, influences, outcomes, motivations, modes, types, dimensions and qualities (Cutler and Carmichael, 2010), these studies have contributed to a broad, while fragmented, understanding of the tourist experience. Accordingly, the tourist experience needs to be understood as a *broad theoretical framework*, rather than a theory. It is composed of theoretical fragments that have emerged through multiple disciplines and have collectively contributed to the development of a comprehensive framework over the past five decades.

This section hence seeks to establish the theoretical foundation of the tourist experience for the purposes of this study. It sets out to explore the origins of the tourist experience, by assessing its linguistic and conceptual roots in various scientific disciplines. It then reviews its historical development and examines the extensive array of work, including the seminal theories, frameworks and constructs that have shaped the knowledge foundation to date. This is followed by a conceptualisation of the subjectivity, complexity and multi-dimensionality of the tourist experience. The final section integrates the reviewed literature and provides an analysis of the definitions as well as a terminological outline and justification of the tourist experience for this study.

2.1.1 Origins of the Tourist Experience

What is the *Technology Enhanced Tourist Experience*? To answer this central question, it is necessary to first explore and develop an understanding of the *tourist experience*. The English word 'experience' is a neutral, vague and highly ambiguous term, which

generally describes all kinds of things that a person has ever undergone (Aho, 2001). The Germanic language is more distinctive in differentiating the two terms, 'Erlebnis', referring to an immediate, conscious participation related to a situation, and 'Erfahrung', determining the accumulation of experiences throughout a lifetime (Larsen, 2007). While the terms are not mutually exclusive, the former tends to capture something temporary of 'here and now', while the latter relates to something accrued long-term. Combined, they contribute to the meaning of the contemporary understanding of an experience (Lee et al., 1994). From a cross-linguistic perspective, the word experience has been most commonly used to indicate an occurrence that individuals would have in everyday life. Depending on the context and scientific discipline, a wide spectrum of definitions has evolved over time (Caru and Cova, 2003).

In science, a distinction between experience in general and the scientific experience is acknowledged. The former conveys specific knowledge to the individual, whereas the latter generates universally accepted knowledge to all. The dominant perspectives in philosophy conform with the scientific view of the former concept in that experience is considered as a personal trial that leads to the accumulation of experiences, and in turn knowledge. An experience can emerge when an individual consciously translates an occurrence into knowledge (Caru and Cova, 2003). From an anthropological viewpoint, experience is predominantly regarded as the way in which individuals live their indigenous culture (Bruner, 1986), while social anthropological perspectives highlight the interactive dimensions of experiences (Selstad, 2007). In this vein, Abrahams (1986) outlines that experience needs to be differentiated from an event, which happens to a society; as an experience is something that occurs within an individual human being.

The psychological discipline also offers a legitimate perspective to answer questions and generate knowledge about experiences (Larsen, 2007). The psychological view, coinciding with sociology, depicts an experience as a subjective, cognitive activity that occurs to an individual human being (Larsen, 2007; Volo, 2009). Thereby, experience can be understood as the knowledge and skills acquired through the involvement in, or exposure to, a specific event and the emotions, feelings and sensations triggered during that occurrence (Ismail, 2010). In assessing the scientific roots of the term experience from a trans-disciplinary perspective, a few commonalities can be extracted to establish the definitional underpinning for the purposes of this research. Based on the literature, it appears that the key to understanding experience is the subjective *individual*, with

inherent motivations, value systems, attitudes, personality traits and affective states of moods and emotions, who undergoes a *specific occurrence*, which is *cognitively* translated into an *experience* and a specific set of *experience outcomes.*

In exploring the conceptual origins of experiences, it is evident that the psychologist Mihaly Csikszentmihalyi (1975) has played a critical role in developing the groundwork of the concept (Ritchie and Hudson, 2009). As early as in the 1970s, he explored the notion of experience in the context of leisure. However, it was not until the 1990s when Csikszentmihalyi (1990a) with his seminal contribution "Flow: The Psychology of the Optimal Experience" could attract the attention of a wider audience. His theory suggests a balance between an individual's 'perceived challenges and perceived skills' to perform a specific task allowing for the ideal level of flow and a satisfactory experience to be created (Csikszentmihalyi, 1990b). At around the same time, Gerhard Schulze's exploration of cultural behaviour in various social strata in 1992, called "Die Erlebnisgesellschaft", created a wider understanding of experiences. It highlighted people's increasing pursuit of fun, action, events and experiences within society (Darmer and Sundbo, 2008).

In the marketing domain, the idea of experiences first emerged with Holbrook and Hirschman's (1982) seminal work "The experiential aspects of consumption". They revolutionised the marketing literature by recognising that consumer behaviour cannot be limited to mere information processing. Instead, it involves an active engagement in an emotional consumption experience. Hedonic consumption was recognised as a key concept relating to the multi-sensory, fantasy, fun and emotional aspects of an individual's consumption experience with a product (Holbrook and Hirschman, 1982). The sum of these concepts has provided an important theoretical foundation, which has fostered subsequent work on the subject, such as experiential marketing (O'Sullivan and Spangler, 1998; Schmitt, 1999), the experience economy (Pine and Gilmore, 1999), experiential consumption (Addis and Holbrook, 2001) and consumption experiences (Caru and Cova, 2003).

Experiences have been recognised as a major component in the life of the contemporary consumer. They are sought after in a pursuit of identity, with sensations, emotional pleasures and memorable recollections at the very core of experiential consumption activities (Frochot and Batat, 2013). As such, consumption is no longer considered as the end of the economic cycle but rather a means to create experiences and construct life

through experiences (Firat and Dholakia, 1998). In general, consumer experiences were understood as mundane activities that happen in everyday life, emerging when products or services are consumed (Holbrook and Hirschman, 1982). Early literature in the field of tourism (Mannell and Iso-Ahola, 1987; Cohen, 1979) has however highlighted the need for differentiation when experiences occur in the particular context of travel and tourism. This need was driven by the distinctive nature of tourism services and experiences, characterised by irrational consumer behaviour, symbolic and aesthetical, emotional, hedonistic and memorable dimensions (Frochot and Batat, 2013). As a result, the next section moves its focus from understanding generic consumer experiences to analysing the tourist experience in specific.

2.1.2 Theoretical Development of the Tourist Experience

Receiving initial attention in the 1960s, the tourist experience has been a popular research topic (Quan and Wang, 2004) and an integral part of tourism research and production for more than five decades (Uriely, 2005). Tourist experience scholarship possibly started with the early seeds of the peak experience developed by Maslow (1964, p.73), describing "*moments of highest happiness and fulfilment*" (Mannell and Iso-Ahola, 1987). A wealth of studies, drawing upon the disciplines of philosophy, anthropology, sociology, psychology and geography followed and contributed to the theoretical understanding of the tourist experience to date (Frochot and Batat, 2013).

Early conceptual delimitations suggested the need to differentiate tourist experiences due to their distinctiveness from mundane, everyday life experiences (MacCannell, 1973; Turner and Ash, 1975; Cohen, 1979). This idea was first advocated by MacCannell (1973), who depicted the tourist experience as the search of authentic experiences and escapism from the shallowness and inauthentic nature of everyday life. The tourist experience was subsequently proposed as a distinct concept, characterised by a temporary distance from home (Turner and Ash, 1975) and a quest for novelty as "*tourism is essentially a temporary reversal of everyday activities - it is a no-work, no-care, no-thrift situation*" (Cohen, 1979, p.181).

In an attempt to describe further differences, scholars were mainly concerned with capturing the essence of what constitutes a tourist experience (e.g. Boorstin, 1964; MacCannell, 1973; Turner and Ash, 1975). These early contributions were mostly homogenous and little differentiated, whereby deeper meanings and motivations

remained undiscovered (Uriely, 2005). One of the first authors to challenge this tradition was Cohen (1979) with his seminal work "A phenomenology of tourist experiences". He revolutionised the existing literature by claiming that different people may actually desire different types of tourist experiences. This assumption has led to the emergence of a five-mode typology, recognising recreational, diversionary, experiential, experimental and existential modes. These highlight a continuum of experience motivations, ranging from mere pleasure seeking towards meaningful personal quests and pilgrimage (Cohen, 1979). This theoretical milestone influenced the academic discourses to gradually abandon the, until then, prevailing simplistic views of unifying representations, and acknowledge a pluralistic nature of tourist experiences instead.

A wide academic interest and a plethora of studies followed to further nurture a more differentiated understanding of the tourist experience. In capturing the vast spectrum of emerged work, Mannell and Iso-Ahola (1987) advocated the need for a classification of studies, consisting of three principal realms, namely the 'Definitional', the 'Post-Hoc Satisfaction' and the 'Immediate Conscious' approach. The definitional view was primarily concerned with describing the underlying factors that shape the tourist experience, while the post-hoc satisfaction approach recognised the motivational triggers of the tourist experience, such as the escapism from daily routines and the quest for recreation. The third stream regarded the immediate conscious approach, which explored the on-site physical tourist experience itself (Mannell and Iso-Ahola, 1987).

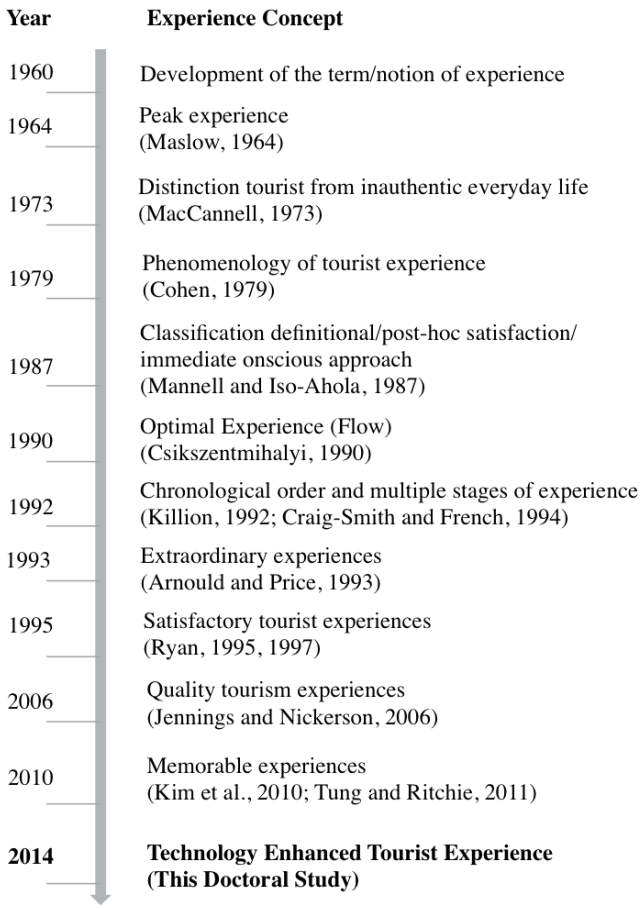
The definitional approach attracted most attention in the 1990s and was advanced by identifying factors, elements and typologies of the tourist experience (Cutler and Carmichael, 2010). Among the most influential studies, setting further milestones in the field, were the service tourist experience (Otto and Ritchie, 1996), the SERVQUAL model (Parasuraman et al., 1988), extraordinary experiences (Arnould and Price, 1993), satisfactory experiences (Ryan, 1995), tourist experiences (Ryan, 1997) and quality tourist experiences (Jennings and Nickerson, 2006; Jennings, 2006; Jennings and Weiler, 2006; Jennings et al., 2009).

In building on this groundwork, Kim et al. (2011) have more recently argued that the earlier seminal contributions (MacCannell, 1973; Cohen, 1979; Holbrook and Hirschman, 1982; Mannell and Iso-Ahola, 1987; Arnould and Price, 1993; Otto and Ritchie, 1996; Csikszentmihalyi, 1997; Ryan, 1997; Uriely, 1997; Pine and Gilmore, 1999) have developed the literature up to a point, where descriptions, such as service,

satisfaction or quality are no longer sufficient to reflect the contemporary characteristics of experiences. Latest theoretical advances (Tung and Ritchie, 2011; Kim et al., 2011) have thus advocated the need to consider memorability as a core characteristic of tourist experiences that emerges when experiences are "*positively remembered and recalled after the event has occurred*" (Kim et al., 2011, p.13).

Based on the review of the tourist experience from the early 1960s to date, this study has developed an overview of the most important theoretical milestones, which are presented on a graphical timeline in Figure 2-1. It depicts the evolution from the early development of the term, to the expansion and differentiation of concepts, up to the contribution of this thesis, the *Technology Enhanced Tourist Experience*. Concluding, it appears that the theoretical developments have led to the emergence of a wide variety of concepts. These concepts have not only given rise to a more comprehensive and differentiated view, but also fostered an increasing complexity of the tourist experience (Volo, 2009; Ryan, 2010). For this purpose, the complexity and the multi-dimensionality of the tourist experience are discussed next.

Figure 2-1. Timeline Theoretical Evolution of the Tourist Experience



Source: Author

2.1.3 Complexity and Multi-dimensionality of the Tourist Experience

In recognising the complex and multi-dimensional nature of the tourist experience (Ryan, 2010), this section discusses three major elements, including a) the subjectivity, b) the multiphasic nature and c) the overall complexity of the tourist experience.

2.1.3.1 Subjectivity of the Tourist Experience

The portrayal of the tourist experience as a complex concept has been complemented by its description as an inherently subjective phenomenon. In deconstructing rigid classifications of unifying experience typologies, theorists have moved away from the focus on displayed objects. They increasingly emphasised the subjective nature, meaning and interpretation of the experience by individuals, as the actors living these experiences (Uriely, 2005). In fact, the majority of recent arguments has evolved around the assumption that the tourist is the starting point of the experience (Binkhorst and Den Dekker, 2009), who plays a key role in the service encounter and becomes the performer and co-creator of the experience (Prebensen et al., 2013; Sfandla and Björk, 2013; Rihova et al., 2014). These views have brought critical implications for the creation and management of tourist experiences.

Tourism providers might create identical products, services and events (Tung and Ritchie, 2011). However, these same products and services are likely to be experienced very differently by different individuals (Prentice et al., 1998). This is mainly due to the fact that experiences occur within the mind of the individual (Volo, 2009), which causes them to be constructed (Wearing and Wearing, 1996; Volo, 2009), felt (Ritchie and Hudson, 2009), interpreted (Selstad, 2007) and ascribed meaning (Vittersø et al., 2000) in an individualistic, subjective and unique way. Among other factors, it is thus the individuality of experiences that adds complexity to the creation and management of the tourist experience. Tourists' emotions emerging within, and outcomes resulting from, experiences cannot be simply controlled by tourism providers (Tung and Ritchie, 2011). Rather, the emphasis needs to be put on the mere *facilitation* of experience environments that allow the individual to extract personal meaning (Wearing and Wearing, 1996) through the interaction with the environment of a tourism destination (Grönroos and Helle, 2010; Lusch and Vargo, 2014; Sfandla and Björk, 2013).

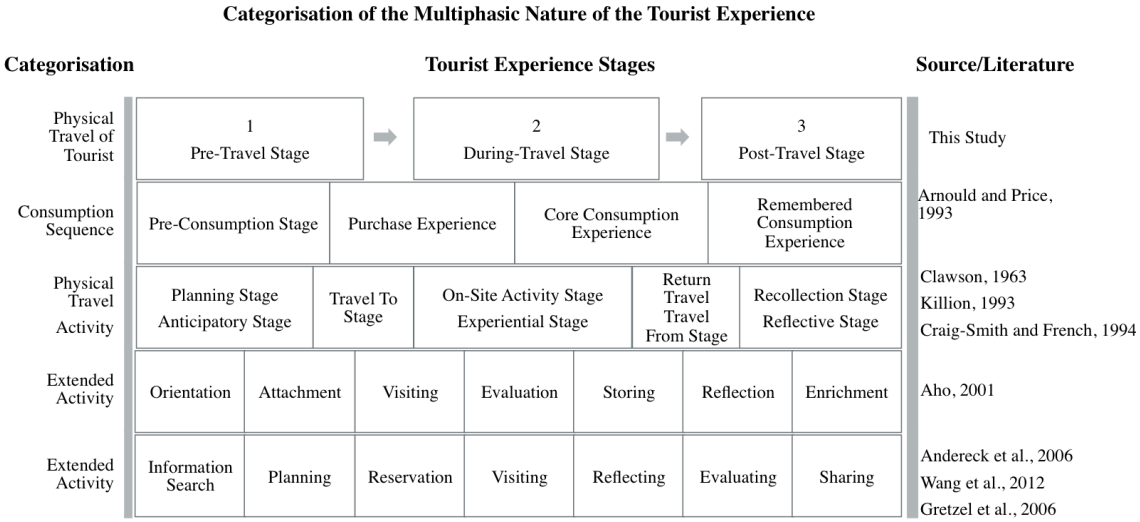
2.1.3.2 Multiphasic Nature of the Tourist Experience

Beyond acknowledging its subjectivity, scholarship has also recognised the temporal nature of tourist experiences. Temporality plays a key role in tourism (Graburn, 1989) and has provided the underpinning for an array of conceptualisations, which portray the tourist experience in a successive or chronological order (Clawson, 1963; Clawson and Knetch, 1966; Killion, 1992; Arnould and Price, 1993; Craig-Smith and French, 1994; Aho, 2001; Larsen, 2001; Pritchard and Havitz, 2006). The first scholar to recognise the multiphasic nature of experiences was Clawson (1963), who developed a five-stage model in the context of leisure, consisting of anticipation, travel to the site, the on-site activity, return travel and recollection stage. In adapting these stages to tourism, Killion (1992) established a four-phase circular model, comprising a travel to, on-site activities, return travel and recollection phase. This model is closely linked with a linear representation subsequently developed by Craig-Smith and French (1994) who depicted experiences in terms of an anticipatory, experiential and reflective phase.

The common premise of these conceptualisations is that experiences are not limited to the main consumption and service encounter on-site (Mossberg, 2003), but encompass a range of activities that occur before and after the consumption takes place. This perspective is supported by extensive studies that have built on the seminal work of the early 1990s (Killion, 1992; Craig-Smith and French, 1994), reiterated the arguments and added to the discussion of a multiphasic tourist experience (Aho, 2001; Larsen, 2001; Gretzel et al., 2006b; Jennings, 2006; Pritchard and Havitz, 2006; Cohen and Ben-Nun, 2008; Jennings et al., 2009; Stickdorn and Zehrer, 2009; Wang et al., 2012).

In synthesising the literature, it appears that there exists a consensus on portraying the tourist experience as a multiphasic phenomenon, which can be divided into numerous stages. Studies seem to have depicted different aspects of the tourist experience, which range from broad to detailed representations. These include the physical travel process (e.g. pre/during/post), consumption sequences (e.g. pre/core consumption) or specific consumption-related activities (e.g. information search/planning). To build an overview of the multiphasic nature of tourist experiences, Figure 2-2 has been developed. It offers a graphical categorisation of the key conceptualisations, ranked from generic to detailed stages, together with the corresponding source in the literature.

Figure 2-2. Categorisation Multiphasic Nature of the Tourist Experience



Source: Author

For the purposes of this research, a linear three-stage model, following an adaptation of the models by Killion (1992) and Craig-Smith and French (1994) is adopted, consisting of a pre-travel, during-travel and post-travel stage (Figure 2-3). By using this simplistic, yet effective model, the study recognises the tourist experience as a multiphasic construct. This model not only provides a clear three-stage structure for exploring the *Technology Enhanced Tourist Experience*, but also ensures enough simplicity to be potentially expanded through the emergent theoretical contributions in the findings chapters of this study (Chapters 4, 5 and 6).

Figure 2-3. Three-Stage Tourist Experience Model

Source: After Killion (1992) and Craig-Smith and French (1994)

2.1.3.3 Complexity of the Tourist Experience

The tourist experience is a subjective, multiphasic but also multidimensional construct that is characterised by a high level of complexity (Uriely, 2005; Ritchie and Hudson, 2009; Volo, 2009; Ritchie et al., 2011). Due to the fact that tourism per se is a pluralistic phenomenon with multiple meanings inherent (Ryan, 2000), there is an unlimited number of possible experience combinations (Gretzel and Jamal, 2009).

Experiences represent a multi-faceted concept that is composed by multiple individuals, activities and the social setting in which these activities take place (Ooi, 2003).

While there exists no single conceptualisation of the full complexity of the tourist experience, consensus in the literature suggests that the tourist experience is difficult to identify, measure and define (Volo, 2009). In an attempt to tackle the complexity of the phenomenon, various studies have contributed to exploring characteristics, phases and components of the tourist experience (Uriely, 2005; Cutler and Carmichael, 2010; Walls et al., 2011). According to Moscardo (2009) the majority of studies have focused on defining single elements (Cohen, 1979; Otto and Ritchie, 1996; Aho, 2001), typologies (Cohen, 1979) and chronological orders of experiences (Killion, 1992; Arnould and Price, 1993; Craig-Smith and French, 1994; Jennings and Nickerson, 2006).

Further significant work has assessed the tourist experience in relation to specific constructs, such as authenticity (Wang, 1999), memory (Small, 1999; Kim et al., 2011; Tung and Ritchie, 2011), satisfaction (Chen and Chen, 2010; Huang and Hsu, 2010) and quality (Corfu and Kastenholz, 2005; Jennings and Weiler, 2006; Jennings et al., 2009; Chen and Chen, 2010). A further array of work has advanced the concept through the theoretical lenses of motivation, phenomenology, culture, gender, host-guest interactions, impact and identity (Jennings et al., 2009), narrative, imagery, spirituality and social relationships (Cutler and Carmichael, 2010). Drawing upon the literature, Table 2-1 shall provide an overview of the spectrum of theoretical aspects that contribute to the complex framework of the tourist experience.

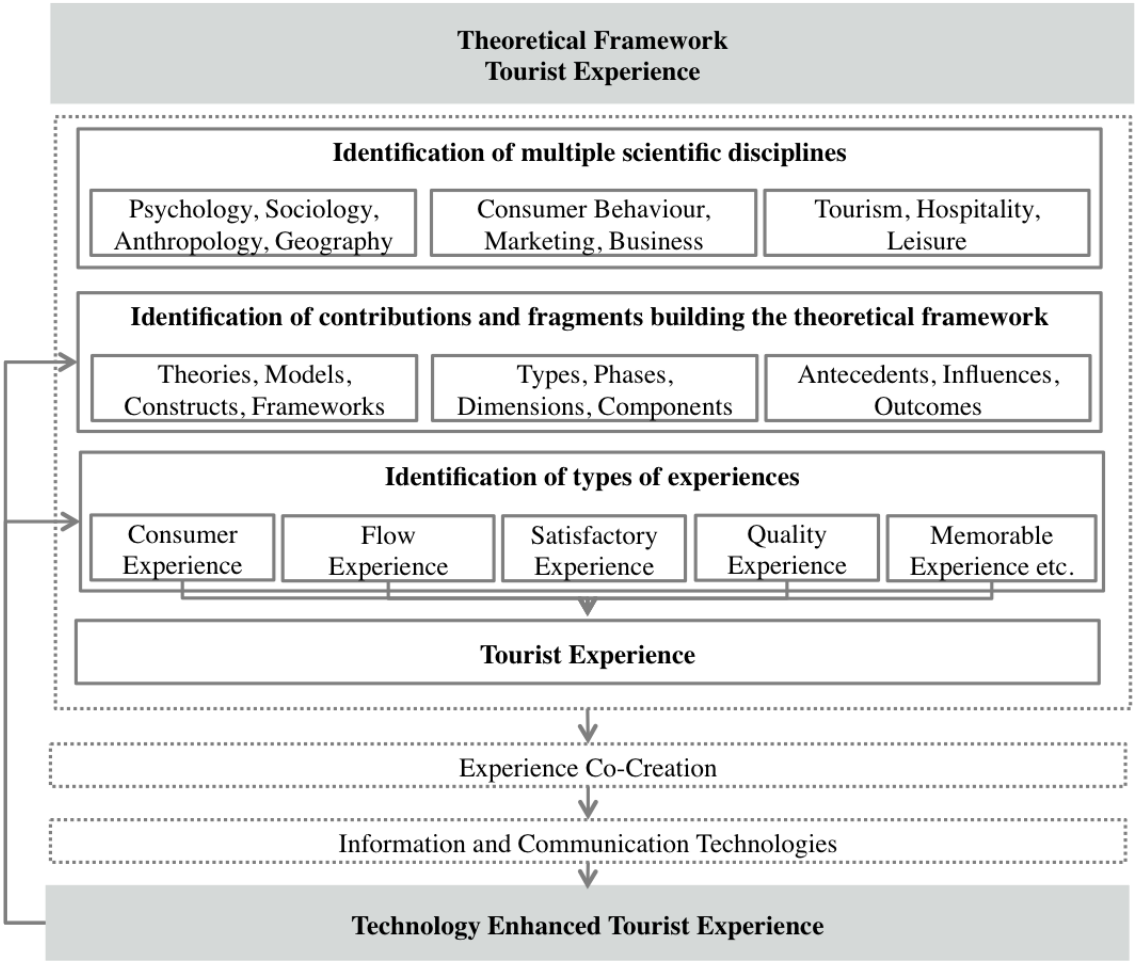
Table 2-1. Overview of Approaches to the Tourist Experience

Theoretical Aspect	***Sources of Literature***
Phases of experience	Killion, 1992; Arnould and Price, 1993; Craig-Smith and French, 1994; Botterill and Crompton, 1996, Aho, 2001; Cohen and Ben-Nun, 2008; Jennings et al., 2009
Modes of experience	Cohen, 1979; Lee et al., 1994; Aho, 2001; Lengkeek, 2001; Jansson, 2002; Pritchard and Havitz, 2006
Role of authenticity	MacCannell, 1979; Wang, 1999
Dimensions of tourist experience	Otto and Ritchie, 1996; Gretzel and Jamal, 2009; Gopalan and Narayan, 2010
Dimensions of specific tourist experiences	Arnould and Price, 1993 (White Water Rafting); Andersson and Mossberg, 2004 (Dining experience); Chhetri et al., 2004 (Hiking experiences); Quan and Wang, 2004 (Food experiences); Carmichael, 2005, Cohen and Ben-Nun, 2008 (Wine experience); Jennings et al., 2009 (Quality tourism experience); Kim et al., 2010 (Memorable tourism experience)
Social relationships and co-creation	Trauer and Ryan, 2005; Binkhorst and Den Dekker, 2009; Prebensen and Foss, 2011; Sfandla and Björk, 2013
Place and mobility	Li, 2000; Larsen, 2001; Gross and Brown, 2006; Ek et al., 2008
Influential and outcome elements (Expectations, quality, satisfaction, memory)	Cole and Scott, 2004; Corfu and Kastenholz, 2005; Nickerson, 2006; Andersson, 2007; Larsen, 2007; Chen and Chen, 2010; Huang and Hsu, 2010; Tung and Ritchie, 2011
Overview of tourist experience research areas	Aho, 2001; Quan and Wang, 2004; Uriely, 2005; Jennings and Nickerson, 2006; O'Dell, 2007
Specific contexts and settings	Beeho and Prentice, 1997 (Heritage), Vitterso et al., 2000 (Attractions); Kang and Gretzel, 2012 (National Park);
Role of technology	Stamboulis and Skayannis, 2003; Corfu and Kastenholz, 2005; Tussyadiah and Fesenmaier, 2007; Gretzel and Jamal, 2009; Tussyadiah and Fesenmaier, 2009; Kang and Gretzel, 2012; Wang et al., 2012
Psychological nature	Mannell and Iso-Ahola, 1987; Larsen, 2007
Experience economy	Andersson, 2007; Oh et al., 2007; Ek et al., 2008; Mehmetoglu and Engen, 2011

Source: Author

Based on previous research, Figure 2-4, the "Theoretical Framework of the Tourist Experience" has been developed as a graphical model to capture the developments reviewed. It adds value in that it shows a) the multiple scientific disciplines informing the theoretical development, b) the fragments of models, constructs, frameworks, typologies, phases, dimensions, influences and outcomes of the tourist experience, and c) the overall experience types, such as consumer, flow, satisfactory, quality or memorable tourist experiences. Taking into account the proclaimed need for further work in tourist experience research, the overview in Figure 2-4 shall provide a solid foundation upon which to build the theoretical contribution of the study. Based on the tourist experience, this study seeks to understand how, through experience co-creation (see Chapter 2.2), and ICTs as the catalyst of change (see Chapter 2.3), a *Technology Enhanced Tourist Experience* can be created.

Figure 2-4. Theoretical Framework of the Tourist Experience



Source: Author

The knowledge contributions of the past 50 years indicate that a long evolution of tourist experience scholarship has taken place (Ritchie and Hudson, 2009). Of particular relevance is that the tourist experience has received an increased interest at the turn of the 21st century. It has returned to the centre of attention, which has primarily been triggered by the changing society and consumers' increasing quest for experiences (Gretzel et al., 2006b). The wealth of recent studies underline its cutting-edge character and relevance for theory and practice (Cutler and Carmichael, 2010; Gopalan and Narayan, 2010; Huang and Hsu, 2010; Wang et al., 2010b; Kim et al., 2011; Prebensen and Foss, 2011; Ritchie et al., 2011; Wang et al., 2012; Matteucci, 2013; Sfandla and Björk, 2013; Wang et al., 2013). Yet, several scholars argue that despite the comprehensiveness of previous work, the tourist experience still constitutes one of the least explored areas in tourism research (Page and Connell, 2009) and continues to remain an under-researched area in tourism (Larsen, 2007). This has given scope to the

advocacy for further theoretical development (Ek et al., 2008; Page and Connell, 2009; Ritchie and Hudson, 2009; Mehmetoglu and Engen, 2011; Sfandla and Björk, 2013).

Moreover, several prevailing gaps in knowledge foster the need for research. According to scholars, the tourist experience still lacks in theoretical basis (Gupta and Vajic, 2000), definition (Caru and Cova, 2003) and understanding (Morgan et al., 2010), as well as in understanding of the nature and design of experiences, on both a theoretical and managerial level (Zehrer, 2009; Morgan et al., 2010; Murray et al., 2010). These claims are substantiated by authors in services and tourism marketing (Ek et al., 2008; Ritchie and Hudson, 2009; Prebensen and Foss, 2011; Ritchie et al., 2011; Agapito et al., 2013), who suggest that further advances are needed. In fact, the dynamic changes in service research and the S-D logic have driven the need for new conceptualisations, starting points and interdisciplinary endeavours of tourist experience research (Sfandla and Björk, 2013). Having outlined its complexity, the definition and adopted terminology of the tourist experience are established next.

2.1.4 Definitions and Terminologies of the Tourist Experience

In order to explore the *Technology Enhanced Tourist Experience*, it is critical to identify a definition of the tourist experience first. This is in line with Volo (2009) who advocates the need for a definition, before moving to the creation, management and marketing of experiences. While the tourist experience has been central to both academia and industry for many years (Uriely, 2005; Volo, 2009), the term continues to remain vague (Caru and Cova, 2003). Its meaning remains ill-defined and a consensus in the literature on a single definition is still missing (Jennings et al., 2009). Ritchie and Hudson (2009) reinforce that due to the complexity of the concept, experiences are in fact one of the most difficult concepts to define. The lack of definitional agreement can also be ascribed to the dominant reliance on tourism literature, while theoretical advances on experiences in alien domains are widely neglected (Murray et al., 2010).

By taking a broader view within the services marketing and management discipline, it was found that a wide range of definitions of experiences in general, and the tourist experience in specific, have emerged in the past. Based on the literature review, experience definitions have been collected and assorted in a structured overview. Table 2-2 presents the outline of definitions, sorted by date (in ascending order from the most

recent to the oldest) and scientific discipline, which shall contribute to a better definitional understanding of the concept for the purposes of this study.

Table 2-2. Overview of Experience Definitions

Author (Year)	***Definition***	***Discipline***
Sfandla and Björk (2013)	"Facilitation of experiences is argued as a relational process of turning goods/services into value and capturing experiences from them over time, with the inclusion of tourists" (p.503).	Marketing / Tourism
Kang and Gretzel (2012)	"A constant flow of thoughts and feelings during moments of consciousness (Carlson, 1997) which occur through highly complex psychological, sociological, and cognitive interaction processes" (p.442).	Tourism
Kim et al. (2011)	A memorable tourism experience is "a tourism experience positively remembered and recalled after the event has occurred" (p.2).	Tourism
Tung and Ritchie (2011)	"An individual's subjective evaluation and undergoing (i.e., affective, cognitive, and behavioural) of events related to his/her tourist activities which begins before (i.e., planning and preparation), during (i.e., at the destination), and after the trip (i.e., recollection)" (p.3).	Tourism
Wang et al. (2011)	"Experience emphasizes the individual's inside feelings he got through his personal practice in the real world" (p.4048).	Technology
Chen and Chen (2010)	Service experience can be defined as the subjective personal reactions and feelings that are felt by consumers when consuming or using a service (p.29)	Tourism
Cutler and Carmichael (2010)	Experience in the context of tourism can be regarded as a complex psychological construct.	Leisure / Tourism
Gopalan and Narayan (2010)	"The 'customer experience' in tourism consists of an assorted bundle of experiences, starting with the immigration desk and customs clearance at the airport." (p.102)	Tourism
Ismail (2010)	Emotions provoked, sensations felt, knowledge gained and skills acquired through active involvement with the firm pre, during and post consumption.	Marketing / Tourism
Binkhorst and Den Dekker (2009)	"Tourism experience is derived from the tension between everyday life and other realities which is to be experienced most obviously as a result of changes in habitual temporal and spatial structures" (p.316).	Marketing
Tussyadiah and Fesenmaier (2009)	The tourist experience constitutes a socially constructed term which is informed by multiple meanings of social, environmental or activity dimensions of the experience.	Tourism
Volo (2009)	"A tourist experience can be defined as any occurrence that happens to a person outside the "usual environment" and the "contracted time" for which a sequence of the following events happens: energy reflecting the state of the environment impinges on sensory organs, the energy pattern is transmitted centrally and is interpreted and categorized according to one's knowledge acquired through time and is integrated and may be stored in the form of memory under some conditions (and thus some learning will occur)" (pp.119-120).	Tourism
Ek et al. (2008)	A dynamic experience is "the constant reshaping of the emotional sensational of living through (before, during and after) the experience" (p.129).	Marketing

Continued		
Ek et al. (2008)	As a noun experience is defined as the "observation and spatial participation in an event". As a verb, ''experience'' is defined as: live through an emotional sensation." "The experience as a verb includes: planning and anticipating the event (''before''); participating in and the enactment of the event (''during''); and telling tales and exhibiting memories of the event (''after''). All of these can stir emotional sensations but the ''during'' phase is probably the most intense one (p.128).	Marketing
Sandström et al. (2008)	Service experience is the sum total of the functional and emotional outcome dimensions of any kind of service. The service experience is always individual and unique to every single customer and every single occasion of consumption, and it assumes that the customer is an active co-creating part of the service consumption process.	Services Marketing
Andersson (2007)	The moment when tourism consumption and tourism production meet. The moment when value is created and resources are consumed.	Tourism
Boswijk et al. (2007)	Immediate, relatively isolated occurrence with a complex of emotions that make an impression and represent a certain value for the individual within the context of a specific situation.	Marketing
Gentile et al. (2007)	"A set of interactions between a customer and a product, a company, or part of its organization, which provoke a reaction. This experience is strictly individual and implies the customer's involvement at different levels (rational, emotional, sensorial, physical and spiritual). Its evaluation depends on the comparison between a customer's expectations and the stimuli coming from the interaction with the company and its offering in correspondence of the different moments of contacts or touch-points" (p.397).	Marketing
Larsen (2007)	A tourist experience could be viewed as "a function of individual psychological processes. Such a perspective implies that the concept of tourist experience presupposes the individual" and "A past-travel related event which was significant enough to be stored in long-term memory" (p.15).	Tourism
Mossberg (2007)	"An experience is made up inside a person and the outcome depends on how an individual, in a specific mood and state of mind, reacts to the interaction with the staged event" (p.60).	Tourism
O'Dell (2007)	Tourist experiences can be more than a simple continuation of everyday life, physically affecting us and leaving us with the perception that we have just participated in something extraordinary. And this aspect of the production, consumption, and staging of experiences needs to be understood (p.41).	Tourism
O'Dell (2007)	Experiences are highly subjective, intangible, continuous and highly personal phenomena (p.38)	Tourism
Selstad (2007)	"The tourist experience can be described as a combination of novelty and familiarity" (p.20).	Social anthropology
Tussyadiah and Fesenmaier (2007)	The term "tourist experience" is a socially constructed term and is associated with multiple interpretations from social, environmental, and activities components of the overall experience.	Tourism
O'Dell (2005)	Experiences occur ''in an endless array of specific places, such as stores, museums, cities, sporting arenas, shopping centers, neighbourhood parks and well-known tourist attractions. At the same time they do not need to be limited to any single place'' (p.15).	Tourism

Continued		
Uriely (2005)	The tourist experience is currently depicted as an obscure and diverse phenomenon, which is mostly constituted by the individual consumer.	Tourism
Quan and Wang (2004)	The tourist experience is the experience in sharp contrast or opposition to the daily experience (p.300).	Tourism
Haeckel et al. (2003)	By 'total experience' we mean the feelings customers take away from their interaction with a firm's goods, services, and 'atmospheric' stimuli (p.18).	Marketing
Stamboulis and Skayannis (2003)	"Experience emerges from the interaction between destinations and tourists—with destinations as 'theaters' at which experience takes place, and tourists as 'actors' who have to play their own role (depending on the extend of their immersion)" (p.41).	Tourism
Berry et al. (2002)	The means of orchestrating all the clues that people detect in the buying process.	Consumer Behaviour
Jansson (2002)	"Being a tourist means temporarily leaving one's home for a certain preselected destination, typically during a collectively shared vacation, for the main sake of gaining new spatial experiences" (p.431).	Communication
Robinette et al. (2002)	The collection of points at which companies and consumers exchange sensory stimuli, information, and emotion (p.60).	Marketing
Shaw and Ivens (2002)	An interaction between an organization and a customer. It is a blend of an organization's physical performance, the senses stimulated and emotions evoked, each intuitively measured against customer experience across all moments of contact (p.6).	Marketing
Aho (2001)	Experience can be understood to cover all kind of things that a person has passed through, regardless of their mental, emotional or other relevance.	Tourism
Gupta and Vajic (2000)	An experience occurs when a customer has any sensation or knowledge acquisition resulting from some level of interaction with different elements of a context created by a service provider.	Marketing
Gupta and Vajic (2000)	"Experience is an emergent phenomenon. It is the outcome of participation in a set of activities within a social context" (p.33).	Marketing
Lewis and Chambers (2000)	An emergent phenomenon. It is the outcome of participation in a set of activities within a social context.	Hospitality
McLellan (2000)	The goal of experience design is to orchestrate experiences that are functional, purposeful, engaging, compelling, and memorable.	Education
Ryan (2000)	"Tourist experiences are 'messy' they are messy at the place of delivery, they may be unclear in meaning when located within the totality of any individual's experiences, and are all the more messy because, paradoxically, tourist experiences can be rich, enriching and cathartic" (p.122).	Tourism
Bergmann (1999)	"Experience is specific knowledge that has been acquired by and agent during past problem solving. Experience is therefore always situated in a certain, very specific problem solving context. . . Therefore, experiences is stored knowledge" (p.28).	Technology
Schmitt (1999)	Experiences evolve as "result of encountering, undergoing, or living through situations. They are triggered stimulations to the senses, the heart, and the mind. Experiences also connect the company and the brand to the customer's lifestyle and place individual customer actions and the purchase occasion in a broader social context. In sum, experiences provide sensory, emotional, cognitive, behavioural, and relational values that replace functional values" (p.25).	Marketing

Continued		
Pine and Gilmore (1999)	Experiences can be created when "a company intentionally uses services as the stage and goods as props, to engage individual customers in a way that creates a memorable event" (p.11).	Marketing
Pine and Gilmore (1999)	Experiences are events that engage individuals in a personal way (p.12).	Marketing
Pine and Gilmore (1998)	A distinct economic offering that is as different from services as services are from goods; successful experiences are those that the customer finds unique, memorable and sustainable over time, would want to repeat and build upon, and enthusiastically promotes via word of mouth.	Marketing
O'Sullivan and Spangler (1998)	Involves the participation and involvement of the individual in the consumption and the state of being physically, mentally, emotionally, socially, or spiritually engaged.	Marketing
Carlson (1997)	An experience can be defined as a constant flow of thoughts and feelings that occur during moments of consciousness.	Psychology
Botterill and Crompton (1996)	"A person's experience or thoughts about reality are regarded as tentative hypotheses that may or may not be true" (p.59).	Tourism
Otto and Ritchie (1996)	Subjective mental state felt by participants during a service encounter.	Tourism
Wearing and Wearing (1996)	"The reality of the tourist experience is the interaction that the tourist has within the tourist space, that is the tourist destination and the meaning that the tourist gives to this interaction" (p.237).	Leisure
Lee et al. (1994)	Leisure experience are characterized as being multi-dimensional, transitory and multi-phased construct.	Leisure
Carbone and Haeckel (1994)	"The take-away impression formed by people's encounters with products, services, and businesses a perception produced when humans consolidate sensory information" (p 8).	Marketing
Arnould and Price (1993)	Extraordinary experiences are characterized by high levels of emotional intensity and triggered by an unusual event.	Leisure
Merriam-Webster (1993)	The fact or state of having been affected by or gained knowledge through a direct observation or participation.	Dictionary
Denzin (1992)	Extraordinary experiences rupture routines and live and provoke radical redefinitions of the self. In moments of epiphany, people redefine themselves.	Culture
Csikszentmihalyi (1990b)	Flow is the optimal experience that keeps one motivated. This feeling often involves painful, risky or difficult efforts that stretch the person's capacity as well as an element of novelty and discovery. Flow is an almost effortless yet highly focused state of consciousness and yet the descriptions do not vary much by culture, gender, or age.	Psychology
Mannell (1984)	Experience or state of mind, is individual and the quality of leisure in our lives is what matters.	Psychology
Holbrook and Hirschman (1982)	Experiences are "a steady flow of fantasies, feelings, and fun" (p.132).	Consumer Behaviour
Cohen (1979)	"Tourist experience as either something essentially spurious and superficial, an extension of an alienated world, or as a serious search for authenticity, an effort to escape from an alienated world" (p.179).	Tourism
Csikszentmihalyi (1977)	"A unified flowing from one moment to the next, in which he is in a control of his actions and in which there is little distinction between self and environment, between stimulus and response, between past, present and future" (p.36).	Psychology
MacCannell (1973)	An active response to the issues of modern life as tourists are in search of authentic experiences.	Sociology

Continued		
Maslow (1968)	"Moments of the highest happiness and fulfilment. We feel more powerful than usual and experience unusual focus, joy, intensity, creativity, in other words being more fully human" (pp.72-73).	Marketing
Boorstin (1964)	Experience can be understood as a popular act of consumption, and a contrived, prefabricated experience of mass tourism.	Sociology
Maslow (1964)	Peak experience is the experiences in which the individual transcends ordinary reality and perceives being or ultimate reality. Short in duration and accompanied by positive affect.	Marketing
Thorne (1963)	Peak experience is subjectively recognized to be one of the high points of life, one of the most exciting, rich and fulfilling experiences, which the person has ever had.	Psychology

Source: Author

In summarising a total of 64 experience definitions from the 1963 to 2013, covering a timeline of 50 years, it becomes evident that the notion of experience remains difficult to define (Zehrer, 2009) and a consensus on a dominant meaning is missing (Tung and Ritchie, 2011). Experiences rather need to be recognised as a socially constructed term that is informed by multiple meanings (Tussyadiah and Fesenmaier, 2009), influences, stages, elements, outcomes and types, all adding to the complexity of the construct (Jennings et al., 2009). In an attempt to capture this complexity, Volo (2009, p.119) proposes an all-encompassing definition, as follows:

> *"experience is composed of all the events that occur between sensation (i.e., an observer's awareness of an energy form impinging on a receptor physiologically designed to transduce it) and perception (i.e., the interpretation of the sensation), as well as memory (i.e., the subsequent organization and recall of such interpretations), which will have been modified and conditioned in the interim by many if not all of the prior and subsequent occurrences of this 'sensation, perception, interpretation, sequence."*

To develop a definition of the tourist experience for the purposes of the study, it is argued that not yet another new definition shall be developed. Instead, this study suggests the need for a synthesis of the wealth of pre-existing definitions for a more integrated understanding. As a result, a word frequency count analysis was conducted of the definitions presented in Table 2-2. The result of the analysis is shown as a word cloud in Figure 2-5. It demonstrates the prevailing words used in experience definitions, with the size of the words being an indicator of the relative frequency of appearance. For a clear graphical overview, the terms 'experience' and 'experiences' were omitted, and the 100 most frequently appeared terms (out of a total sample of 1780 words) were displayed. The analysis reveals the following ten most frequently named words, namely tourist (17), individual (14), customer (12), event (10), interaction (9), tourism (9), emotional (8), context (7), state (7) and consumption (7).

Figure 2-5. Definitional Cloud of the Tourist Experience

Source: Author

The content analysis, underpinned by the numerical frequency, led to the development of the following *synthesised definition* of the tourist experience:

"A tourist experience can be understood as a *highly subjective* and *personal* (O'Dell, 2007) *occurring, happening, event* (Schmitt, 1999) of a *short duration* (Maslow, 1964), related to a *tourist consumption activity* or the extended *pre/during/post* travel phase (Tung and Ritchie, 2011), in which an *individual* human being (Mossberg, 2007) *undergoes*, is *involved* or *actively participates* (O'Sullivan and Spangler, 1998) in a *specific context* (Boswijk et al., 2007), and the *moment* in which *tourism consumption* occurs (Andersson, 2007) and the individual enters an *interaction* with a *product, service* or *company* (Gentile et al., 2007) towards a *mental state* where an *emotional response, knowledge* or *skills* are obtained (Ismail, 2010), *value* is created (Andersson, 2007) and possibly translated into long-term *memory* (Tung and Ritchie, 2011)."

In line with the argument that social phenomena per se are not precise, but definitions can rather be used "*as vehicles for thought, as perspectives, or as indicators of essential properties of a phenomenon*" (Gummesson, 1997, p.270), this definition shall capture the essence of the tourist experience and merely serve as a vehicle for this research. The detailed analysis has also shed light on one interesting aspect, namely the level of ambiguity between the terms 'tourist' experience and 'tourism' experience. In fact, both terms are widely used interchangeably without a clear differentiation (Jennings, 2006). To adopt the most appropriate term, it was important for this research to critically reflect and develop a differentiated understanding of the term tourist experience.

The literature review reveals a parallel usage of three main terminologies, including the tourist experience, tourism experience and touristic experience, with the former two prevailing. While numerous studies use *tourist experience* (e.g. Cohen, 1979; Botterill and Crompton, 1996; Corfu and Kastenholz, 2005; Gopalan and Narayan, 2010), the term *tourism experience* seems to have been equally popular in the literature (Jansson, 2002; Cohen and Ben-Nun, 2008; Binkhorst and Den Dekker, 2009; Kim et al., 2011). Several studies also appear to have applied both terms at the same time (Andersson, 2007; Ek et al., 2008; Gretzel and Jamal, 2009; Huang and Hsu, 2010). Despite their parallel existence, Jennings et al. (2009) claim that over the past 50 years a stronger preference has developed towards the term *tourist experience*.

The reason to adopt the term tourist experience is however not merely based on its popularity, but rather rooted in a number of theoretical assumptions. In line with the Scandinavian school of thought, the subjective role of the individual within the experience is recognised. Scholars have portrayed experiences as personal phenomena (O'Dell, 2007) that rest within the individual as the experience start and end point (Larsen, 2007). As such, tourists living the same experience at the same place and at the same time may have a different experience due to previous visits (Cole and Scott, 2004), social constructions (Nickerson, 2006) and their psychological mindset (Ooi, 2005) that affects their interpretation. Therefore, this study focuses on the individual, and favours the term *tourist experience* (assuming the experience of an individual tourist) over the term *tourism experience* (implying the experience of tourism).

The use of the term *experience* (singular) versus *experiences* (plural) was also evaluated. By taking the multi-phasic nature of experiences before, during and after travel into account (Tung and Ritchie, 2011), it is recognised that there is *not one single experience* but rather *multiple experiences* occur throughout a tourist's travel process. While its pluralism is acknowledged, the term *Technology Enhanced Tourist Experience* (singular) is used to refer to the new theoretical concept emerging in this thesis. Having reviewed the origins, theoretical development, complexity, definitional and terminological outline of the tourist experience, section 2.2 now turns to introduce the second theoretical stream of this study, namely experience co-creation.

2.2 *Experience Co-Creation*

The recent advances in consumer society, the empowerment of consumers and the implied consequences within the services marketing and management domain, have caused a major impact on the way consumer experiences are created (Vargo and Lusch, 2008; Palmer, 2010; Grönroos and Ravald, 2011; Frochot and Batat, 2013). Conventional practices of service delivery and experience staging (Pine and Gilmore, 1999) have evolved. This has led to new theoretical and practical frontiers and an emerging need to re-think and re-conceptualise the (co-)creation, facilitation and management of tourist experiences (Prahalad and Ramaswamy, 2004b; Binkhorst and Den Dekker, 2009; Volo, 2009; Palmer, 2010; Vargo and Akaka, 2012).

This section has the scope to review the discourses in the literature in order to capture the underlying changes and establish an understanding of *experience co-creation* for this study. It begins with an introduction to services marketing and management as the overarching theoretical field of this research. Under this domain, several decisive eras for contemporary marketing thought are reviewed. The early economic roots from the production economy towards the service economy are established, before the experience economy is introduced (Pine and Gilmore, 1999).

The next part then turns its focus on the latest paradigm shift within services marking and management that has led to the emergence of the notion of experience co-creation. Within this new paradigm, the changing role of the consumer (Frochot and Batat, 2013) and the S-D logic as a new school of thought (Vargo and Lusch, 2004) are reviewed. The section then goes on to introduce the concept of experience co-creation in detail (Prahalad and Ramaswamy, 2004b). Its theoretical development is discussed and interrelated concepts are differentiated, before generating a deeper understanding of experience co-creation and its core principles of actors, resource integration, value-in-context and value co-destruction. The last section contextualises experience co-creation in tourism and highlights the potential for innovation of co-creation through ICTs.

2.2.1 Services Marketing and Management: From Product to Experience Economy

Services marketing and management have undergone a long evolution from the early product economy to the service-dominant thinking logics that prevail to date. Rooted in the product economy, in which a goods-dominant logic predominated, it progressively

moved towards the notion of services as the antitheses of goods (Vargo et al., 2006). In an attempt to move away from good-centric terminologies and conceptualisations, scholars have shifted the marketing debate towards experiential marketing (Holbrook and Hirschman, 1982), relationship marketing (Berry, 1983) and service quality (Zeithaml et al., 1988). To offer a comprehensive understanding of experience co-creation, this section first provides a review of services marketing from the early origins in the product economy, the progress towards the service economy and the arrival of the experience economy (sections 2.2.1.1 to 2.2.1.3). The paradigm shift towards the S-D logic and experience co-creation is subsequently discussed in section 2.2.2.

2.2.1.1 The Product Economy

The roots of services marketing date back to the late 18th century, when Adam Smith contributed with the discussion of value to the early economic thought (Vargo et al., 2008). The prevailing debates centralised agricultural, manufacturing and goods dominant economies. Economic perspectives at that time suggested the differentiation between tangible outputs, obtained through manufacturing and agriculture, and non-tangible outputs, such as services provided by doctors or lawyers. The product-oriented view dominated academic debate, considering tangible goods as productive and services as unproductive (Vargo and Lusch, 2004; Vargo et al., 2008). In the 19th and 20th centuries, the idea of providing and delivering tangible products to consumers became more prominent (Palmer, 2005). In this goods-dominant logic (G-D logic), as the main mode of thought underpinning this era, value was embedded in goods and determined by the market price. The core tenet was ‘value for money’ in exchange for goods and products (Vargo and Lusch, 2006).

The consumer was thereby seen as the end of the production chain. Companies and consumers were distinct and marketing became the key tool to bridge the gap, by creating and filling demand and emphasising the value of goods (Vargo et al., 2006). While the G-D logic prevailed until the first half of the 20th century, the post-war economic prosperity induced a radical change in marketing approaches, both practically and academically (Vargo and Lusch, 2004). Due to the growing consumer purchasing power and demand, market competition experienced a rapid increase. With these developments, the emphasis of marketing gradually shifted from product orientation towards consumer behaviour (Sheth and Gross, 1988; Sheth et al., 1991). These advances were primarily driven by the underlying premise to meet and satisfy consumer

needs, while increasing the firm's profits and competitive advantage (Vargo and Lusch, 2004; Vargo et al., 2006). With an expanding consumer orientation, the marketing and management approach emerged, with the scope to foster consumer satisfaction and loyalty for profit and growth (Grönroos, 1990; Kotler et al., 1996; Kotler et al., 2009).

2.2.1.2 The Service Economy

Succeeding the post-war prosperity and the shift towards consumer behaviour, society became increasingly characterised as a service-driven economy (Vargo et al., 2006). Services, defined as a complex phenomenon determined by various characteristics and components (Zehrer, 2009), have long presented an integral part of the economy. While the academic interest in, and discussion of, services has experienced a particular peak within the S-D logic most recently, the concept has entered the services marketing discourses as early as the mid-late 20th century (Vargo and Lusch, 2004). In the 1980s, thinking logic advanced from marketing management towards marketing as a social and economic process (Vargo and Lusch, 2004). This development was particularly fostered by seminal contributions shaping services marketing (Grönroos, 1984; Zeithaml et al., 1985), relationship marketing (Gummesson, 2000; Sheth and Parvatiyar, 2000; Palmer et al., 2005) as well as value perspectives and resource and network oriented views (Prahalad and Ramaswamy, 2004a; Sandström et al., 2008; Vargo et al., 2008).

These emerging concepts contributed to an inherent service orientation that recognises goods and products as primarily functional means. Goods merely serve as tools in the application of resources to assist the purpose of service and value exchange (Vargo and Lusch, 2004; Vargo et al., 2008). With gaining recognition, numerous definitions of services appeared, with one of the most widely accepted definitions proposed by Kotler et al. (1996, p.588): "*any activity or benefit that one party can offer to another which is essentially intangible and does not result in the ownership of anything. Its production may or may not be tied to a physical product*". These advances, aligned with an increasingly service-oriented economy, have fostered major conceptual developments in the domain (Vargo et al., 2006). One of the emerging theoretical areas in the late 1990s was concerned with experiential aspects of service consumption. Pine and Gilmore (1999) proclaimed a shift from services to experiences and introduced the transformational concept of the experience economy.

2.2.1.3 The Experience Economy

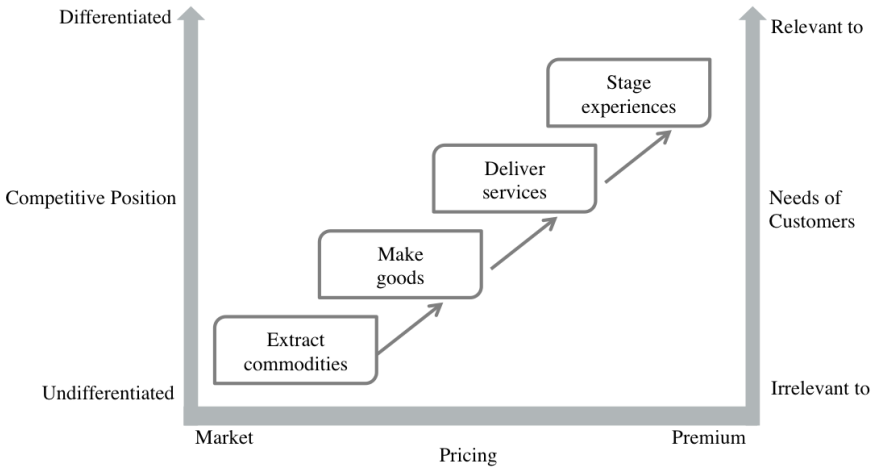
In the course of the past decade, the concept of experience creation has received considerable attention. At the turn of the 21st century, this movement has led to the contemporaneous advent of various notions, labelled experiential marketing (Schmitt, 1999), dream society (Jensen, 1999), entertainment economy (Wolf, 1999), experience economy (Pine and Gilmore, 1998), creative economy (Richards and Raymond, 2000) and cultural economy (Richards and Wilson, 2006). While all these concepts added to the development of the experiential view in marketing, the experience economy has most likely been the concept that has received most attention in the literature. Pine and Gilmore (1999), shaping the term experience economy, captured the notion of consumers' pursuit of memorable experiences. The idea of people wanting to buy into experiences by consuming products and services was the proposition that altered conventional views within services marketing (Morgan et al., 2010).

The experience economy per se is however not a new phenomenon. The German sociologist Gerhard Schulze described this notion in the shift of society to meaningful experiences and values rather than faith, class or politics (Boswijk et al., 2007). Likewise, the idea of providing experiences has existed among tourism suppliers long time before Pine and Gilmore (1999). The aroused interest in the early 2000s was however particularly triggered by the importance of delivering experiences, as products have become increasingly replicated, interchangeable and commoditised (Morgan et al., 2010). In a market, characterised by globalisation, deregulation and the convergence of industries and technologies, it has become more and more difficult for companies to differentiate their offers from their competitors (Prahalad and Ramaswamy, 2004b). The experience economy thus hit the 'zeitgeist' of that time, as a key proposition to provide consumers with unique and memorable experiences (Pine and Gilmore, 1999), create added value (Grönroos, 2000) and gain competitive advantage (Binkhorst and Den Dekker, 2009). This has given rise to the strategic selling of experiences as a prime objective in marketing, a main endeavour for companies and a driver for business success (Prahalad and Ramaswamy, 2004b).

The underlying principles of the experience economy suggest a progression of economic value. Figure 2-6 depicts the transformation from the production of commodities and goods, towards the provision of services to the final staging of experiences. For instance, a birthday cake evolves from pure commodities (ingredients)

to goods (packaged mixes) and services (finished cake), towards an experience (birthday cake delivered in a themed party). Experiences thereby represent the ultimate objective in the ladder, with the premise that commodities are fungible, goods are tangible, services are intangible, while experiences are memorable. For business competitiveness this effectively means that companies no longer exclusively compete on the market price. Instead, they differentiate themselves in terms of the distinct value through the experience provided (Pine and Gilmore, 1999). With consumers striving for high value, the strategic production of experiences has evolved into a key concept for businesses (Darmer and Sundbo, 2008).

Figure 2-6. The Progression of Economic Value



Source: Pine and Gilmore 1999, p.22

Despite the popularity of the experience economy in services marketing theory and practice, Binkhorst and Den Dekker (2009) claim that the concept has received a considerable amount of criticism since its proposition in the late 1990s. The main criticism is grounded in the business-oriented idea of staging experiences. While experiences are the central premise, the concept is strongly driven by economic values and capitalist thinking (Boswijk et al., 2007). With a radical shift in the company-consumer relationship taking place, this way of thinking has become increasingly challenged (Prahalad and Ramaswamy, 2004b). Numerous scholars have criticised that the creation of experiences has been treated as a one-directed approach, with a focus on the supplier over the consumer side (Ek et al., 2008). The company embodied the focal role in the production of experiences as new de-materialised goods and commodities (Stamboulis and Skayannis, 2003; Darmer and Sundbo, 2008). Consequently, it has been perceived as too commercial as to reflect the needs and wants of contemporary consumers (Boswijk et al., 2007).

With recent developments in the economy and consumer society, a major paradigm shift occurred in services marketing and management. A new thinking logic emerged, one that recognises intangible resources and the co-creation of experiences and value (Vargo and Lusch, 2004). Two of the most seminal contributions were made by Prahalad and Ramaswamy (2004b) who introduced the notion of 'co-creation experience' as a novel practice of value creation, and Vargo and Lusch (2004) who presented a new logic for services marketing, the S-D logic. The common premise of these contributions is the principles of co-creating experiences *with* consumers, rather than providing experiences *for* consumers. Drawing upon the development of services marketing and management, Table 2-3 has been developed. It provides a clear timeline of the defining periods, the inherent marketing thoughts and assumptions, from the product economy, via the service and experience economies to the S-D logic and experience co-creation. By adopting the latest discourses in the field, the S-D logic and experience co-creation are used as the foundational theoretical lens that underpins this research. To this end, the paradigm shift leading to experience co-creation is discussed in detail next.

Table 2-3. Historical Development of Services Marketing and Management

Period	***Timeline***	***Marketing Thought***	***Theoretical Assumptions***
Product Economy	1800–1920	Classical and Neoclassical Economics	Production of goods and commodities Tangible, standardized output Value is embedded in products Value is added, value-in-exchange
	1900–1950	Early/Formative Marketing	Production of goods and commodities Early marketing thought Role of marketing to bridge gap between supply and demand, sell products and add value Focus on transaction
Transition Product Economy Service Economy	1950–1980	Marketing Management	Product-dominant views, progress towards services Marketing recognition of consumer behaviour Role of marketing to fulfil consumer wants and needs, create quality, satisfaction and loyalty Need for differentiation and competitive advantage
Service Economy	1980–2000	Marketing Social/Economic Process	Service-oriented views and service provision Service-orientation, relationship marketing, value, resources and networks Role of marketing as a social and economic process Value-in-use, value propositions
Experience Economy	1998-2004 and forward	Experiential Marketing	Experience-dominant views Consumers buy services to get experiences Progression of economic value Creating memorable experiences
Experience Co-Creation	2004-present	Services Marketing / S-D Logic Co-Creation	Experience-dominant views Market is a forum of co-creation Consumer as co-creator of experience and value Two-way participation company-consumer

Source: After Pine and Gilmore, 1998; Vargo and Lusch, 2004; Vargo et al., 2006

2.2.2 Paradigm Shift in Services Marketing and Management

In the course of the past decade, society has undergone an evolution that has been characterised by consumers having become more active, powerful and involved in production and consumption processes (Ramaswamy, 2009a). Induced by increasing service expenditure and deregulation of service industries, there has been a gradual shift towards new approaches in the services marketing domain (Frochot and Batat, 2013). A new paradigm has arrived that challenged the relationship between companies and consumers (Ramaswamy, 2009a) and advanced discourses of *how* and *by whom* value is created (Vargo and Lusch, 2004; Vargo et al., 2006; Sfandla and Björk, 2013). In this vein, this section sheds light on the dominant drivers of change that have led to the paradigm shift in services marketing and management. It presents the changing role of the consumer society and introduces the S-D logic as the underlying theoretical lens of this study, before outlining experience co-creation in the subsequent section.

2.2.2.1 The Changing Role of the Consumer

A number of developments have led to a shift in society and the contemporary consumer. Modernity was determined by the era of industrialisation and mass production. In this era, marketing was mainly concerned with the rational behaviour of consumers and understanding how to satisfy tangible needs. This mindset grounded in reason, progress and rational order was increasingly challenged as two prominent philosophies, namely postmodernism and consumer culture theory, emerged as new marketing paradigms exceeding this simplistic view (Frochot and Batat, 2013). Postmodernism offered a novel philosophical lens, developed after World War II, that has had wide implications on art, culture, society, politics and tourism (Urry, 1990; Lash and Urry, 1994). The underlying principles of culture, language, meanings, symbolic modes, flexibility, narratives and aesthetics (Firat and Venkatesh, 1995) entailed new perspectives for deconstruction and subjectivity (Uriely, 2005). Most importantly for society, it has offered a new approach that has liberated consumers from the dominant market control and has recognised consumers as participatory actors changing consumption culture, behaviour and experiences (Frochot and Batat, 2013).

In this new consumer age, a series of driving forces have changed society and contributed to the emergence of the contemporary consumer. For instance, Prahalad and Ramaswamy (2004c) highlight five dominant forces, consisting of information access,

global view, networking, experimentation and activism. Particularly due to the proliferation of ICTs and the possibility to access information almost unlimitedly, allowing for more transparency and connection, traditional ways of companies providing one-directed information were changed (Prahalad and Ramaswamy, 2004c). Consumers have become increasingly empowered, informed, connected and networked and have taken on a more proactive role in consumption and production. Subsequently, a shift towards a 'prosumer society' occurred, reflecting the new role of the consumer in both consumption and production (Ritzer and Jurgenson, 2010). This novel mind-set has been particularly advanced by two main theoretical streams, namely the S-D logic (Vargo and Lusch, 2004) and experience co-creation as 'a next practice of value creation' (Prahalad and Ramaswamy, 2004b). To summarise how the role of the consumer has progressed from the experience economy to experience co-creation, Table 2-4 has been developed to depict the transformation of the company-consumer relationship. The next section goes on to outline the S-D logic in detail.

Table 2-4. Transformation Company-Consumer Relationship

From: Experience Economy Principles	***To: Experience Co-Creation Principles***
One-way	Two-way
Firm to consumer	Consumer to firm
Controlled by firm	Consumer to consumer
Consumers are "prey"	Consumer can "hunt"
Choice = buy/not buy	Consumer wants to/can impose their view of choice
Firm segments and targets consumers Consumers must fit into firm's offerings	Consumer wants to be empowered to co-construct a personalised experience

Source: After Prahalad and Ramaswamy, 2004b

2.2.2.2 Service-Dominant Logic

Hand in hand with the changes in consumer society went the recognition of a service-centric economy within the services marketing and management field. In this domain, service-centric philosophies emerged at the heart of economic efforts and became the driving forces in understanding contemporary service and value creation (Vargo and Lusch, 2004). Service centricity, consumer orientation and value-in-use assumptions have been integral in moving marketing thought from a goods-dominant to a service-dominant logic (Vargo and Lusch, 2004; Vargo et al., 2008). For instance, Pine and Gilmore (1999) introduced the notion of mass customisation and shifted the focus away from mass production towards an increased emphasis on experiences. In a similar vein, Prahalad and Ramaswamy (2000) offered the idea that value cannot be produced but

needs to be co-created through experiences. Similarly, Nordic scholars advanced the notion of relationships in marketing towards an interactive logic in service management (Grönroos, 2000; Grönroos and Helle, 2010; Heinonen et al., 2010; Grönroos and Ravald, 2011). It was thanks to these and many more studies that conventional thinking was challenged and calls for new paradigms were made.

Vargo and Lusch (2004) made one of the most recognised contributions by introducing the S-D logic as a new understanding of consumers in services marketing context. The S-D logic was essentially defined as the "*the convergence of contemporary marketing thought*" (Vargo et al., 2006, p.40). S-D logic needs to be understood as a perspective, rather than a theory, that underpins contemporary marketing theory and practices as a lens for understanding value creation (Vargo and Lusch, 2006; Vargo et al., 2008). Several assumptions underpin this perspective. These include that a) value creation does not occur in factories but through the interactions of actors and b) consumers are active and creative resources in a collaborative market. As such c) value is co-created and determined by the consumer, which means that d) *value creation* rather than value delivery is at the core of this new logic (Vargo and Lusch, 2004; Lusch and Vargo, 2006; Grönroos, 2008; Vargo and Lusch, 2008). Table 2-5 offers a valuable overview to understand the main differences between the GD-logic and the S-D logic.

Table 2-5. Value Creation G-D logic and S-D logic

Value Creation	***G-D logic***	***S-D logic***
Value driver	Value-in-exchange	Value-in-use or value-in-context
Creator of value	Firm, often with input from firms in a supply chain	Firm, network partners and customers
Process of value creation	Firms embed value in 'goods' or 'services', value is added by enhancing or increasing attributes	Firms propose value through market offerings, consumers continue value-creation process through use
Purpose of value	Increase wealth for the firm	Increase adaptability, survivability and system well-being through service of others
Measurement of value	The amount of nominal value Price received in exchange	The adaptability and survivability of the beneficiary system
Resources used	Primarily operand resources	Primarily operant resources, sometimes transferred by embedding them in operand resources-goods
Role of firm	Produce and distribute value	Propose and co-create value
Role of goods	Units of output, operand resources that are embedded with value	Vehicle for operant resources, enables access to benefits of firm competences
Role of customers	To 'use up' or 'destroy' value created by the firm	Co-create value through the integration of firm-provided resources with other private and public resources

Source: After Vargo et al., 2008

2.2.3 The Concept of Experience Co-Creation

Having reviewed the paradigm shift towards the S-D logic, this section now turns to discuss the concept of experience co-creation as the underlying process for the creation of the *Technology Enhanced Tourist Experience*. While co-creation is acknowledged as a concept that involves multiple actors (Vargo and Lusch, 2011; Wieland et al., 2012), this study's focus is primarily placed on companies and consumers as the actors within the tourist experience co-creation. This section first provides an overview of the theoretical development of co-creation to allow for a differentiated understanding of what, and importantly what not, the experience co-creation represents. It then discusses the resource integration process, the actors, value-in-context and value co-destruction before contextualising the concept in the field of tourism and ICTs.

2.2.3.1 Theoretical Development and Differentiation of Experience Co-Creation

Co-creation has been shaped at the turn of the 21st century, when it was initially defined as "*engaging customers directly in the production or distribution of value*" (Kambil et al., 1999, p.38). A wide body of literature has contributed to building the foundations of experience co-creation since 2004 (Prahalad and Ramaswamy, 2004a; Prahalad and Ramaswamy, 2004b; Edvardsson et al., 2005; Payne et al., 2008; Ramaswamy and Gouillart, 2008; Vargo et al., 2008; Binkhorst and Den Dekker, 2009; Huang and Hsu, 2010; Prebensen and Foss, 2011). Consumer participation is not a theoretically new concept per se, but has been discussed in the experiential domain since the late 20th century. Although not explicitly referring to co-creation at the time, Arnould and Price (1993) were one of the first scholars to recognise an interactive dimension of extraordinary experiences between the customer and the service provider, who create an emotional experience outcome together. The principles of co-creation have taken this idea further by replacing all goods- and service-dominant views of the past decades and introducing a new era in the company-consumer relationship (Ramaswamy, 2011).

In reviewing the discourses emerged within the S-D logic (Lusch and Vargo, 2006; Vargo and Lusch, 2008; Vargo et al., 2008), it appears that scholarship has conceptualised the role of the consumer in production and consumption through a wide number of concepts. By developing and refining the principles of service- and experience-centric views (Edvardsson et al., 2011; Lusch and Vargo, 2014), scholars have given rise to several closely related concepts. Some of the most prominent

concepts include *prosumption* (Xie et al., 2008; Ritzer and Jurgenson, 2010), *customer involvement* (Sigala, 2012b), *co-creation* (Prahalad and Ramaswamy, 2004b), *co-production* (Shaw et al., 2011; Chathoth et al., 2013), *customer-to-customer co-creation* (Huang and Hsu, 2010; Rihova et al., 2014), *customisation, personalisation and engagement* (McCabe et al., 2012; Brodie et al., 2013), *crowdsourcing* (Doan et al., 2011; Djelassi and Decoopman, 2013) *working consumers, collaborative innovation, consumer agency or consumer tribes* (Cova and Dalli, 2009).

Despite the emergence of new literature in the field, existing terminologies are still rather fluid. In fact, many studies use terminologies interchangeably, while clear differentiations and boundaries between single concepts are difficult to define (Chathoth et al., 2013). In line with authors advocating the need for a more differentiated understanding of the contents, limits and processes that take place in co-creation (Frochot and Batat, 2013), it is crucial to develop an in-depth understanding of what precisely co-creation is. While a detailed review of associated concepts would go beyond the scope of the study, Chathoth et al. (2013) suggest to differentiate co-creation from co-production, which is a closely related, and often confounded, concept.

Co-production has become a widely used term, reflecting the notion of customer involvement (Chathoth et al., 2013). It has been portrayed as a key mechanism between companies and consumers in service exchange (Bitner et al., 1997) and defined as an interactive nature of services (Yen et al., 2004). Co-production has provided a valuable perspective in numerous service industries (e.g. hairdresser, medical services, education and hospitality), in which consumers are encouraged to become active participants in the service encounter and experience creation process.

Grounded in the G-D logic, co-production practices require the consumer to be physically present to receive the service, while being asked to provide information that could be used to deliver the service more effectively (Yen et al., 2004). Co-production is thus a company-centric approach of customer involvement (Payne et al., 2008) that mainly neglects the reciprocity between companies and consumers (Chathoth et al., 2013). In contrast, co-creation, grounded in the S-D logic (Vargo and Lusch, 2008) allows for a mutual company-consumer approach, in which both actors play interdependent roles in creating experiences and value (Chathoth et al., 2013).

To further delineate conceptual differences, Table 2-6 was developed. It offers an overview of several key definitions of co-creation and its related concepts from the early 1990s until to date. The analysis of the definitions reveals that the consumer assumes a central and active role while engaging in a blurred production and consumption process with the scope of experience and value creation. Based on these premises, the following definition of co-creation shall be proposed for the purposes of this study: "a *mutual and interactive process of company-consumer interaction* (Payne et al., 2008) for the *joint creation* (Chathoth et al., 2013) of tourist *experiences* and *value* (Prahalad and Ramaswamy, 2004b; Vargo and Lusch, 2004) which can occur *anywhere throughout the entire service chain* (van Limburg, 2012).

Table 2-6. Overview of Co-Creation Definitions

Author (Year)	***Definition***
Chathoth et al. (2013)	"Co-creation is defined as the joint production of value for both customers and firms alike through an interactive process." (p.2)
Sfandla and Björk (2013)	Defines a co-creation network as all actors in these are in interactive relational processes co-creating tourism experiences.
Grönroos (2011)	Joint activities by parties involved in dyadic direct interactions aiming at contributing to the value that emerges for one or both parties.
Prebensen and Foss (2011)	"Co-creation of experiences, as a theoretical construct, reflects the consumer as taking an active part in consuming and producing values (Dabholkar, 1990), and deals with customer involvement in defining and designing the experience." (p.55)
Mehmetoglu and Engen (2011)	"Customers actively to co-construct their own experiences through personalised interaction (with the company), and thereby co-create unique values for themselves." (p.244)
Huang and Hsu (2010)	Unacquainted customers, also called customer-to-customer (C2C).
Zwass (2010)	"Co-creation is the participation of consumers along with producers in the creation of value in the marketplace." (p.13)
Binkhorst and Den Dekker (2009)	An experience co-creation network contains all the people and things that are needed to provide the experience environment.
Shen and Ball (2009)	"Customizing services to an individual customer through the adaptive behaviour of service representatives." (p.81)
Ek et al. (2008)	Tourists not only consume experiences but also co-produce, co-design and co-exhibit them.
Mossberg (2007)	Co-production of the products, which add value to the tourists.
Richards and Wilson (2006)	Co-producers of their own experiences which blurs the boundaries between production and still further.
Prahalad and Ramaswamy (2004b)	"Co-creation is about joint creation of value by the company and the consumer. It is not the firm trying to please the customer." (p.8)
Prahalad and Ramaswamy (2004b)	"Engaging customers as active participants in the consumption experience, with the various points of interaction being the locus of co-creation of value." (p.16)
Kambil et al. (1999)	Engaging customers directly in the production or distribution of value. Customers, in other words, can get involved at just about any stage of the value chain.

Source: Author

2.2.3.2 Actors in Experience Co-Creation

The principles of co-creation introduced a paradigm shift in marketing (Li and Petrick, 2008). One of the most fundamental shifts concerns the changed understanding of *how* and *by whom* experiences are created. For this study it is particularly important to understand *who* are the dominant actors participating in experience co-creation. Actors can generally be defined as:

> "*firm(s) and person(s) who are engaged in networks and processes that relate to them. Actors are, furthermore, bonded over time to a place and space, to financial services and technological and knowledge, psychological and social aspects of relationships*" (Sfandla and Björk, 2013, p.498).

Grönroos (2008) assessed the S-D logic to understand who co-creates value. His proposed value facilitation model places companies and consumers in a dual relationship. The firm takes the roles of the resource facilitator, by providing the necessary resources for the basis of value creation and co-creator, by enabling direct interactions with consumers in value-generating processes. The consumer is seen as the opponent element, i.e. the resource integrator and co-creator in this process. Recently, several Nordic scholars, such as Grönroos and Helle (2010) have challenged the assumptions of company-consumer co-creation by arguing that companies are not always necessarily the co-creators of value. In fact, the dialogue between the company (including departments, employees, stakeholders and shareholders) and the consumer might only be one of a myriad of interactions (Baron and Harris, 2008; Baron and Harris, 2010; Helkkula et al., 2012). Beyond dual forms of co-creation, the market has opened a forum for interactions between different actors, including companies, consumers and wider consumer communities (Prahalad and Ramaswamy, 2004b).

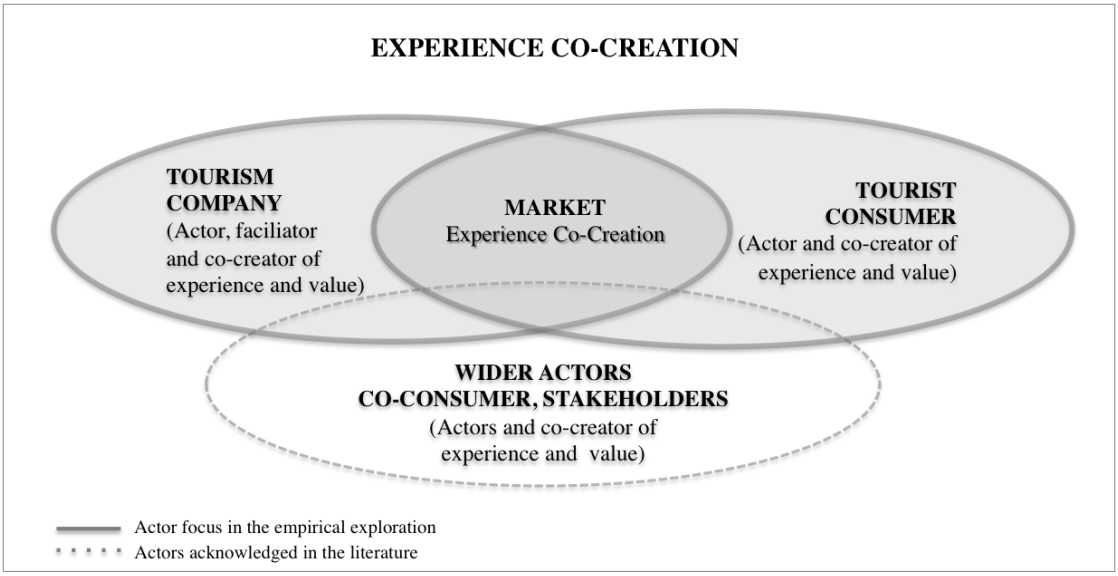
Drawing upon this assumption, recent studies (Heinonen et al., 2010; Heinonen et al., 2013) have introduced the novel perspective of the 'customer-dominant logic' (C-D logic). This new school of thought underlines that it is not the consumer, who '*becomes'* a co-creator of value. Instead, it is the service provider, who is invited to become involved in co-creating with its consumers (Grönroos and Helle, 2010). This new logic recognised a shift of value creation from the business domain towards value creation within the social sphere of the individual consumer (Heinonen et al., 2013). This premise gives a new starting point that is entirely evolved around the consumer with the main principle of finding out "*what the customer is doing or trying to do, and how a specific service fits into this*" (Heinonen et al., 2010, p.535).

In this logic, the emphasis is moving towards consumers, their individual experiences, domains and value creation processes. Businesses need to nurture a space that facilitates not only interactions *with* consumers (B2C), but also allows for interactions *among* consumers and consumer communities. In acknowledging customer-to-customer (C2C) co-creation, a new milestone in services marketing has been set, proposing C2C co-creation as a new source of customer value extraction (Baron and Harris, 2010). Particularly fostered by the proliferation of ICTs, co-creation actors and processes have "*exploded on an unprecedented scale everywhere in the value creation system*" (Ramaswamy, 2009b, p.17). Furthermore, with the developments of the Web 2.0 and social networking tools, the co-creation of experiences and value has gone beyond dyadic relations and encompasses a wide range of interactions within the C2C domain (Sigala, 2009). Scholars have recently started to conceptualise and explore customer-to-customer interactions as an integral part of co-creation discourses (Baron and Harris, 2010; Huang and Hsu, 2010; Baron and Warnaby, 2011; Rihova et al., 2014).

Recently, a broader and more generic perspective of actor involvement has emerged, the actor-to-actor (A2A) perspective of co-creation. Vargo and Lusch (2011), who introduced this notion, advocate the need to 'zoom out' and to adopt a more open approach to value creation. This perspective adds a new dimension to linear conceptualisations of co-creation and acknowledges co-creation to occur in a "*more complex and dynamic system of actors*" (Vargo and Lusch, 2011, p.182). In line with developments at the technological frontiers, an A2A view might offer a more dynamic frame (Wieland et al., 2012) to understand co-creation actors in an interconnected and technology-enabled world. This study recognises a market with multiple levels of co-creation between companies, consumers and wider actors.

Based on these principles, Figure 2-7 has been developed as a graphical model, after Prahalad and Ramaswamy (2004b), which recognises a multitude of actors in experience co-creation. While the presence of multiple actors is acknowledged in this study, the scope of the empirical exploration focuses on a twofold company-consumer perspective within the *Technology Enhanced Tourist Experience*. An investigation of companies or consumers only would provide a unilateral view, while the combination of both is needed to understand how these actors engage in experience co-creation. From the investigation of a two-fold actor perspective, narratives about additional actors might unfold. The notion of resource integration is discussed next.

Figure 2-7. Experience Co-Creation



Source: After Prahalad and Ramaswamy, 2004b, p.11

2.2.3.3 Resource Integration in Experience Co-Creation

Beyond understanding *who co-creates* value, it is critical to understand the underlying principles of *where* and *how* resource integration for experience co-creation takes place. Co-creation essentially occurs in markets, which have been portrayed as passive backgrounds (Araujo et al., 2010), defined as being "*everywhere and nowhere*" (Venkatesh et al., 2006, p.252). Markets are everywhere, as environments, where exchanges occur and nowhere as marketing occurs through discrete exchanges in a non-static market (Araujo et al., 2010). In other words, markets do not exist. Instead, they need to be understood as dynamically created, evolving and fluid. Markets can be seen as the environment, in which actors integrate resources to facilitate services and co-create experiences and value (Vargo and Lusch, 2008).

At the core of the S-D logic is thus the *integration of resources* (Vargo and Lusch, 2011). These can include physical equipment, human knowledge, skills, social relational processes and interactions (Sfandla and Björk, 2013). In deepening the understanding of this logic, Vargo and Lusch (2004) have called to differentiate two types of resources, *operand* and *operant* resources. Operand resources are usually tangible resources (e.g. materials, machinery and natural resources) that need action taken upon to create value. Operant resources are usually described as intangible resources (e.g. human skills and knowledge) that can be integrated to act upon another resource (Vargo and Lusch, 2004). The main emphasis within the S-D logic is on *operant* resources, which are the prime drivers for value creation, due to their capability

to act on other resources (Arnould et al., 2006). Generally, it is however the combination of both resources that is needed in the service provision and value creation process (Vargo et al., 2008; Vargo and Lusch, 2011).

2.2.3.4 Value-in-Context in Experience Co-Creation

Value is a dominant concept in a variety of scientific disciplines, which builds its theoretical foundations on the economics and exchange, utility, marketing, finance and information systems literature (Sigala, 2006). Value can generally be described as a notion that is highly abstract and elusive (Sfandla and Björk, 2013), contextual, experiential and meaning-laden (Vargo and Lusch, 2008). It has been conceptualised with different terminologies, such as economic value, added value, value-in-exchange, value-in-use (Vargo et al., 2008; Sfandla and Björk, 2013), and most recently, value-in-context (Chandler and Vargo 2011; Helkkula et al., 2012) and value-in-experience (Chen, 2011; Heinonen et al., 2013). Originating from the product and service economy, value has progressed from a largely utilitarian towards a more experiential construct (Frochot and Batat, 2013). Whilst historically value has always been co-produced between companies and consumers (Vargo and Lusch, 2004), it was predominantly characterised by a give-get dichotomy of benefits and sacrifices (Zeithaml et al., 1988) and considered as a functional construct (Parasuraman et al., 1985).

Only within the advent of the S-D logic, the notion of value evolved into the idea of value creation *with* rather than *for* the consumer. Introduced by Vargo and Lusch (2004), the concept of *value-in-use* emerged. It recognises value to arise through the integration of resources and use (Ramaswamy, 2009a; Grönroos and Ravald, 2011; Wieland et al., 2012). Unlike earlier conceptualisations, this concept suggests that consumers are the central subjects who inherently create experiences and value for themselves (Sandström et al., 2008). The premise of S-D logic implies that resources per se do not have or possess value, but value is *co-created* with the consumer when specific resources are used. Essentially, "*value can only be created with and determined by the user in the 'consumption' process and through use*" (Vargo and Lusch, 2006, p.284). This means that value does not automatically exist in products and services. Rather, value can only be co-created (Vargo and Lusch, 2004; Vargo and Lusch, 2006; Vargo et al., 2008) as a "*result of resource integration and the involved actors' use of their knowledge and skills*" (Frochot and Batat, 2013, p.58).

This argument links back to the earlier raised criticism of the experience economy, in section 2.2.1.3, which stated that experiences cannot be simply staged and delivered because an experience does not exist until the individual perceives it (Vargo and Lusch, 2004). What can be created instead is a '*value proposition',* i.e. the prerequisites that allow for value to potentially emerge. Based on this assumption, a company can only provide the necessary environment and resources from which consumers can create an experience (Mossberg, 2007). The company's value proposition becomes the intermediary link between the actors (Vargo et al., 2008). The consumer is the one who decides the extent to which rely on service providers or integrate the own available resources for the creation of value (Frochot and Batat, 2013). Consumers can either create value without the service provider or create value through an entirely pre-designed experience, while most likely a mid-ground of these extremes will occur (Durrande-Moreau et al., 2012). The company merely offers a value proposition, either through direct interaction or consumer-independent value creation in which the company's resources are used as the basis for value (Frochot and Batat, 2013) and tourist experience creation (Sfandla and Björk, 2013).

Experience and value creation occur in the frame of a wider service (eco)system that is determined by a high complexity of variables influencing the service context (Akaka et al., 2013). Most recently, S-D logic discourses have recognised the subjectivity of value, by introducing the terms 'value-in-context' and 'value-in-experience', which allow for a more encompassing conceptualisation, emphasising the phenomenological nature of value (Vargo et al., 2008; Chandler and Vargo 2011; Helkkula et al., 2012). The notion of value-in-context, frequently referred to as value-in-experience, is based on Edmund Husserl's notion of lifeworld 'Lebenswelt', which describes an individual's lived experience embedded within the individual's social context. Value-in-context is grounded in the fundamental premise that value is contextually and phenomenologically co-created by several stakeholders and determined by consumers (Vargo and Lusch 2008; Akaka and Vargo, 2014). The consumer is at the core of living, experiencing and ascribing meaning to the surrounding context of his/her contextual reality, shaped by perception, imagination, thought, emotion, desire and volition (Helkkula et al., 2012).

In considering value as an inherently phenomenological construct, it epitomises not a mere result of the direct interaction with a service provider (Chandler and Vargo 2011). Rather, it becomes a contextually framed concept that is consumer-centric and allows

for a multi-reality perspective (Heinonen et al., 2013). In other words, consumers can create value without the direct contact, interaction and involvement of a service provider and their value proposition (Helkkula et al., 2012; Heinonen et al., 2013). In the service (eco)system, actors decide whether or not to access and act upon available resources to be integrated (Wieland et al., 2012). Value can thus be created in the consumer's own context by using facilitated or own resources (Vargo et al., 2008).

Resource integration and value creation are context-dependent processes. Actors are shaped by their contexts, and contexts are partially defined by actors in a mutually constitutive nature (Chandler and Vargo 2011). *Context* is therefore a central notion in value co-creation, as it determines the potentiality of resources, individually for the actor, and collectively for the service (eco)system (Chandler and Vargo 2011). As a result, resources, such as ICTs, may not simply *be* but rather *become* valuable, depending on the context in which they are drawn upon. The integration of any resource (e.g. technology, knowledge and skills) is thus subjectively evaluated by different actors in the same or different contexts (e.g. time, location, situation) (Akaka and Vargo, 2014). This implies that the very same resource might be more valuable in one context, while it might be less valuable in a different context (Chandler and Vargo 2011).

2.2.3.5 Value Co-Destruction in Experience Co-Creation

Expanding on the premise that resource integration and value creation are context-dependent, these might not always be positive, but could also be negative in instances. This argument emerged in recent advances within the resource-based literature, drawing attention to the notion of 'value co-destruction' (Plé and Chumpitaz Cáceres, 2010; Chathoth et al., 2012). While the majority of work has focused on positive value co-creation, value co-destruction has been largely treated as an implicit construct that has been widely overlooked in the literature to date (Lefebvre and Plé, 2011). In essence, value co-destruction captures a level of co-creation, in which value is not created, but instead destroyed by the actors or resources integrated in the process (Plé and Chumpitaz Cáceres, 2010). As such, co-destruction might occur on a voluntary (intentional) or involuntary (accidental) level, as the resources integrated lead to a diminishment or destruction of value (Plé and Chumpitaz Cáceres, 2010).

In line with the advocacy that the concept merits further exploration (Lefebvre and Plé, 2011), two recent studies have examined the value co-destruction empirically. Echeverri and Skålén (2011) investigated how value co-destruction can occur through five

interaction practices in the context of public transport. Woratschek and Durchholtz (2012) explored facilitators and barriers of co-creation in the context of sport events and demonstrated how spectators of a soccer game can induce value co-destruction for other participants. Considering resource integration as phenomenological (Helkkula et al., 2012), it is critical to evaluate the possibility that the integration of ICTs in the tourist experience might lead to value co-creation or value co-destruction. In fact, although technology might constitute "*a resource at one level, the same technology could be considered as a resistance at a different level, or different context*" (Akaka and Vargo, 2014, p.374). While this study primarily seeks to explore the 'enhancement', i.e. the positive creation of tourist experiences through ICTs, the potential diminishment of experiences and value through ICTs shall be considered through a co-destruction lens.

2.2.3.6 Experience Co-Creation in the Context of Tourism

Experience co-creation has become pivotal in contemporary services marketing and management and particularly in the S-D logic (Etgar, 2008; Baron and Harris, 2010; Baron and Warnaby, 2011; Grönroos and Ravald, 2011). It has also been embraced within the disciplines of management and the emergent service science (Prahalad and Ramaswamy, 2004b; Gentile et al., 2007; Payne et al., 2008; Xie et al., 2008; Grönroos, 2008 ; Baron and Warnaby, 2011; Doan et al., 2013). With co-creation proliferating across industries, scholars have envisaged the concept to rapidly gain adoption in the tourism industry alike (Prahalad and Ramaswamy, 2004b; Shaw et al., 2011). Until recently, tourism was dominated by company-centric views in which tourists were allocated a predominantly passive role and neglected in the design and creation of experiences (Ek et al., 2008). With the proclaimed shift in the relationship between providers and consumers (Prahalad and Ramaswamy, 2004b), the dynamics of the market and the rules of the game have changed. This has led to a new point of departure for tourism providers to abdicate their role as the primary experience producer and consider the tourist as an active performer instead (King, 2002; Ek et al., 2008).

In applying co-creation to tourism, Li and Petrick (2008) were among the first scholars to highlight a paradigm shift, while Binkhorst and Den Dekker (2009) set an agenda for tourism co-creation research. In further advancing the discourses in the field, studies have discussed co-creation in the heritage sector (Minkiewicz et al., 2009), examined co-production in the hospitality industry (Shaw et al., 2011) and compared co-creation and co-production in hospitality (Chathoth et al., 2013). It seems that much recent work

has drawn attention to conceptualising and exploring co-creation and, in doing so, contributed to its application in tourism at an accelerated pace (Grissemann and Stokburger-Sauer, 2012; Chathoth et al., 2013; FitzPatrick et al., 2013; Prebensen et al., 2013; Sfandla and Björk, 2013; Rihova, 2014).

Building upon the principles of value-in-context and value-in-experience, it is essential for tourism companies to note that they cannot deliver experiences, but rather need to facilitate the physical space (e.g. destinations, spaces and places) and resources (e.g. information, platforms and devices) that enable tourists to co-create their own experiences and value (Murray et al., 2010). This study thus advocates that tourism service providers, such as destinations, hotels and airlines can merely take the role of resource facilitators (Vargo and Lusch, 2011). As such, they need to facilitate the entire service chain, i.e. the pre/during/post travel process (van Limburg, 2012) to allow for the co-creation of tourist experiences between the company and the tourist consumer to occur (Cabiddu et al., 2013; FitzPatrick et al., 2013; Prebensen et al., 2013; Sørensen and Jensen, 2015). By doing so, tourism companies can enter a new paradigm of experience creation, which fosters growth and innovation, and unravels new sources of competitive advantage (Shaw et al., 2011).

2.2.4 Innovation of Experience Co-Creation

Consumers are in a constant search of experiences. The application of co-creation principles can unfold a unique source of added value, innovation and competitive advantage (Shaw et al., 2011) and become a means of differentiation (Ramaswamy and Gouillart, 2008). As experience and value co-creation propositions proliferate (Prebensen et al., 2013; Schmidt-Rauch and Schwabe, 2013; Sfandla and Björk, 2013), companies however need to facilitate innovative and compelling experiences to remain competitive. While still relatively new in thought and application, co-creation practices need to be continuously innovated to offer increasing value propositions (Binkhorst and Den Dekker, 2009). This is of particular relevance for tourism businesses, which due to the dynamic nature of the industry, must innovate at an accelerated pace to generate competitive advantage and long-term sustainability (Cetinkaya, 2009; Hjalager, 2010; Zach et al., 2010; Leung et al., 2013). In a response to this market force, it is therefore paramount to seek ways to innovate, foster new service development (Sigala, 2012a) and maximise the potential of co-creation (van Limburg, 2012).

In this vein, technology has been recently proposed as a potential means of service innovation in service systems that allows for enhanced value co-creation (Akaka and Vargo, 2014). In fact, technology can represent a game changer (Pine and Korn, 2011). It is one of the most strategic instruments to create innovation, stay ahead of the competition and create consumer value (Sigala, 2010; Pine and Korn, 2011; Schmidt-Rauch and Schwabe, 2013; Akaka and Vargo, 2014). With the advances of social and mobile technologies, experience co-creation opportunities have become magnified. The co-creation environment therefore needs to openly embrace the potential brought by emerging ICTs (van Limburg, 2012). It is with this advocacy in mind, that this study introduces ICTs, as the third theoretical stream of the literature review in section 2.3. In exploring its nature, definition, role and impact, the next section links ICTs to tourist experience and co-creation theories in order to understand how these drivers combined can lead towards the creation of a *Technology Enhanced Tourist Experience*.

2.3 *Information and Communication Technologies in Tourism*

Building upon the understanding of the tourist experience and experience co-creation (sections 2.1 and 2.2), this section now turns to introduce ICTs as the third theoretical stream of this research. In recent years, it has become evident that consumer empowerment and co-creation have been particularly encouraged by technology (Pine and Korn, 2011; Ramaswamy, 2011). ICTs have caused a drastic impact, by changing not only consumer society and various industries (Buhalis and Law, 2008), but also by transforming the nature of how tourist experiences are created (Lamsfus et al., 2010; Tussyadiah and Zach, 2011; Frochot and Moscarola, 2012; Yovcheva et al., 2013).

Hence, it is critical for this study to develop an understanding of the nature of ICTs, their role in the tourism industry and their potential integration as a resource to co-create and enhance tourist experiences. Based on this rationale, this section starts with establishing a definition and classification of ICTs and discussing the development and progress of ICTs in tourism (Buhalis and Jun, 2011). The second part presents ICTs as a catalyst of change and conceptualises four main technological driving forces that impact upon the tourism landscape. In the final part, the advances of ICTs are interconnected with the tourist experience in a discussion of ICTs as a resource in the tourist experience (Akaka and Vargo, 2014) and the integration of ICTs in the three stages of the tourist experience (Gretzel et al., 2006b). In conceptually linking tourist experience, co-creation and ICTs, this section addresses Research Objective 1.

Research Objective 1

To explore the changing nature of the tourist experience and the experience co-creation process in terms of the implementation of ICTs in the pre/during/post stages of the travel process

2.3.1 Definition and Classification of ICTs

Technology generally comprises numerous domains, including information, computing, communication, entertainment, manufacturing, engineering and transportation (Pine and Korn, 2011). While a wide range of technologies is recognised, the focus of this study is exclusively placed on information and communication technologies. This is because of the nature of ICTs, which meet the scope of the study. Due to their distinctiveness of being immaterial, easily modifiable and abundantly reproducible, digital information and communication technology is 'the technology of experiences' (Pine and Korn, 2011). ICTs encompass several technologies, including hardware, software, groupware, netware and humanware (Buhalis, 2003). As these different systems, accumulated under the umbrella of ICTs, converge the distinction between hardware equipment and software becomes blurred (Werthner and Klein, 1999). What is critical is that the synergies between single components build effective tools for communication and information that subsequently render ICTs integrated networked systems (Buhalis and Jun, 2011). Accordingly, Buhalis (2003, p.7) defines ICTs as:

> *"the entire range of electronic tools, which facilitate the operational and strategic management of organisations by enabling them to manage their information, functions and processes as well as to communicate interactively with their stakeholders for achieving their mission and objectives".*

To develop an understanding of ICTs in tourism, Table 2-7 is introduced as a classification of the components forming the entity of ICTs. Drawing upon the main components of ICTs (hardware, software, netware and telecommunications, software and groupware), it demonstrates the application and specific examples of ICTs relevant to the context of tourism. In advancing the definition of ICTs presented by Buhalis (2003) and linking it with tourist experience and co-creation theories, the following definition is put forward in this study:

> *"the entire range of electronic tools available in the pre/during/post stage of travel, which allow the tourist consumer and the tourism provider to connect, engage and co-create enhanced tourist experiences."*

Table 2-7. Classification of ICTs in Tourism

Component	*Description/Application in Tourism*	*Examples ICTs in Tourism*
Hardware	Physical equipment necessary used by tourist consumers, or provided by tourism service providers for its use by tourists	Navigation Systems; Cell phones; Mobile phones with Global Positioning System (GPS); Pagers; Cordless computer peripherals, Telephones; Personal digital assistants, Kiosks
Netware and Tele-communications	Equipment and software necessary to support a network and transmission of signals, data and communications. Necessary basis for tourist consumers and tourism providers to connect and access specific services through the Internet/wireless connection, etc.	Wireless networks; Global System for Mobile Communication (GSM); General Packet Radio Service (GPRS); Universal Mobile Telecommunications System (UMTS); 3G; Long-Term Evolution (4G LTE); Mobile networks; Internet/Intranet/Extranet; Wireless Location Area Networks (WLAN); Wireless radio connection (Wi-Fi); Worldwide Interoperability for Microwave Access (WiMAX);
Software and Groupware	Software necessary for the operation of hardware and tools, consisting of a wide range of tools used by tourist consumers and tourism providers for information, communication, collaboration, etc.	Virtual reality communities; Consumer-generated media; Web 2.0/Social media tools; Blog; Text/Video/Photo-sharing sites; Provider/intermediary websites; Destination Management systems (DMS); Recommendation systems; Digital Maps; Portable Guide; Location based services (LBS); Context based services (CBS); Augmented reality applications
Software and Groupware	Examples of several tourism specific applications of software and groupware, sorted by its purpose	Online travel agencies (Expedia, Orbitz, Lastminute.com, Opodo, Travelocity); Search engines (Google, Kayak); DMS (Visitbritian.com, Tiscover); Web 2.0 portals and review sites (TripAdvisor); Price comparison sites (Kelkoo, Priceline); Virtual communities (SecondLife; Virtual tourist); Web 2.0/Social Media (Flickr, Twitter, Facebook, MySpace, RenRen, YouTube)

Source: After Buhalis and Jun, 2011

2.3.2 Development and Progress of ICTs in Tourism

Having established an overall definition and classification of ICTs, this section discusses how ICTs have become a driver of global change in tourism. At the turn of the 21st century, society has been undergoing a number of fundamental changes. One of the most far-reaching transformations concerns the emergence and impact of ICTs. Living in an information age (Hall, 2005), the proliferation of ICTs, such as computers and the Internet has given rise, since the early 1990s, to a knowledge-based economy that is characterised by new ways in which information becomes available. The development of the Internet has thereby been considered as the most important innovation since the printing press (Hoffman, 2000). It was a radical innovation that has changed not only the availability and exchange of information (Schmallegger and Carson, 2008), but also

the role of human beings in society (Barwise et al., 2006). Due to these advances, ICTs have transformed people's everyday lives (Crouch and Desforges, 2003) and have paved new ways in which numerous sectors, including the tourism industry operate (Middleton et al., 2009).

As one of the fastest growing industries of the world, the travel and tourism industry has always been at the forefront of technology (Sheldon, 1997) and has taken advantage of the synergies available between technology and tourism (Buhalis and Law, 2008). By doing so, technologies have been a major driver causing entire tourism structures to change (Stamboulis and Skayannis, 2003). The role of technology in tourism can be described as multifarious. For instance, ICTs have been ascribed a key role in the operations, structures and strategies of tourism organisations (Buhalis, 2003; Buhalis and Law, 2008), a central element in the innovation of products, processes and management (Hjalager, 2010) and an enabler of great opportunities for tourism organisations in the attraction and retention of visitors (Werthner and Klein, 1999). Tourism businesses have always been interested in the strategic exploitation of ICTs. In facilitating numerous applications, ICTs have been instrumental to manage information, enhance efficiency, communicate effectively, achieve competitiveness and extend the operational and geographical reach of businesses to a global basis (Stamboulis and Skayannis, 2003; Sigala, 2006; Law et al., 2009).

In allowing for better access and transparency of information (Hall, 2005), ICTs have also caused a decrease of traditional travel distributions and fostered an increasing independence of consumers (Buhalis and Licata, 2002). This is of particular importance because of the intangible, heterogeneous and perishable nature of the tourism product (Buhalis and Jun, 2011), which renders ICTs pivotal in the presentation and description of information, prices, reviews and opinions online. Overall, scholars proclaim that ICTs have played a key role in revolutionising the nature of tourism (Werthner and Klein, 1999; Buhalis, 2003; Buhalis and O'Connor, 2005; Law et al., 2009; Wang et al., 2010a). Not only have they brought radical changes (Cetinkaya, 2009) and challenges, but also great opportunities (Benckendorff et al., 2005; Gretzel et al., 2006a) and potential for implementation in the present and the future (Wang et al., 2010a).

Internet technologies have become key tools in enabling interactions among suppliers, intermediaries and consumers on a global basis (Egger and Buhalis, 2008; Buhalis and Law, 2008). More importantly, with the advances of the Internet from the Web 1.0 to

the Web 2.0, one of the most transformative technological developments over the past years has occurred (Fotis et al., 2011; Sigala, 2011b; Dwivedi et al., 2012; Hays et al., 2012; Sigala, 2012b; Leung et al., 2013; Xiang et al., 2014). The Web 2.0, a term coined by O'Reilly Media at the Web 2.0 Conference, is defined as:

> *"a set of economic, social, and technological trends that collectively form the basis for the next generation of the Internet, a more mature, distinctive medium characterised by user participation, openness, and network efforts"* (O'Reilly, 2006, p.4).

The Web 2.0 has brought a massive change that has opened new forms of communication and has turned the Internet into an immense space of networking and collaboration (Buhalis and Law, 2008; Schmallegger and Carson, 2008; Sigala, 2011b; Sigala, 2012b). In this context, social media have gained immediate popularity, as:

> "*a group of Internet-based applications that build on the ideological and technological foundations of Web 2.0, and that allow the creation and exchange of User Generated Content*" (Kaplan and Haenlein, 2010, p.61).

The variety of tools available in the Web 2.0 comprising blogs, videos, wikis, chat rooms, folksonomies and podcasts have empowered individuals to connect, interact and generate content on an unprecedented scale (Sigala, 2011b; Tussyadiah and Fesenmaier, 2009). Social media tools have enabled new ways of collaboration with the scope to share opinions, experiences, perceptions and recommendations (Turban et al., 2008). As such, the proliferation of social media in society has brought particularly critical implications for the business and tourism market place.

Empowered by the interactive nature of the Web 2.0, users have taken an active part in designing services with the company (Sigala, 2009) and influencing the online reputation as well as the branding of tourism organisations around the world (Inversini et al., 2010). Recent studies have further drawn attention to capturing the potential of social media for organisational use, information exchange, travel information search, holiday planning and destination marketing (Miguens et al., 2008; Schmallegger and Carson, 2008; Fotis et al., 2011; Xiang, 2011; Dwivedi et al., 2012; Hays et al., 2012).

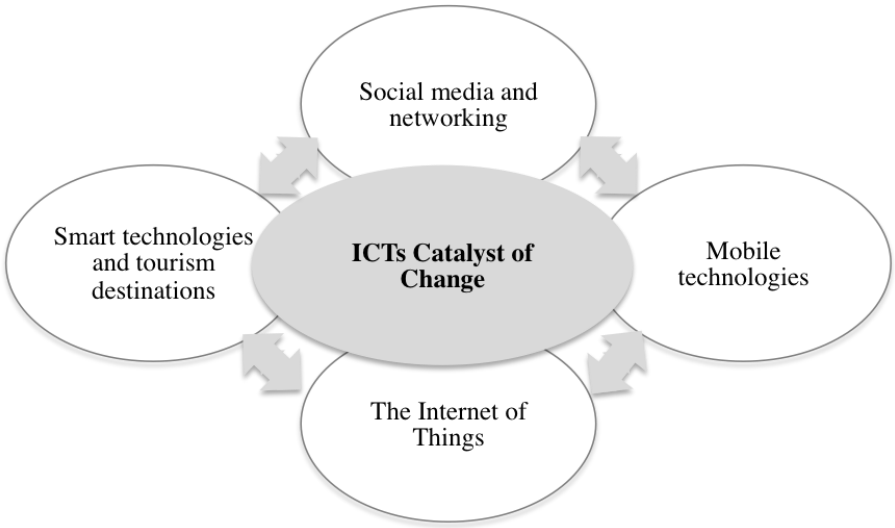
In addition to the impact of the Web 1.0 and the Web 2.0 on tourism, mobile technologies have brought one of the most significant changes, shaping the way how tourists experience travel. In fact, mobility has been portrayed as one of the four mega trends next to globalisation, communication and virtuality, as identified by Egger and

Buhalis (2008). The rapid technological developments of the past decades have induced a major shift in the mobility of products, services and people as well as the technology itself (Gretzel and Jamal, 2009). Sheller and Urry (2006) call this phenomenon "mobilities paradigm", which captures the mobile nature of travel and tourism, as people travel more often, for work, study and leisure reasons (Gretzel and Jamal, 2009). Travel has thus evolved into a simple extension of the mobile version of everyday life (Franklin, 2003), with people of the new Creative Class (Florida, 2002) being characterised by a mobile lifestyle, an increasing mobility and the use of ICTs (Larsen et al., 2007). Having outlined the impact and progress of ICTs for society and tourism, ICTs as a catalyst of change of tourist experiences is conceptualised next.

2.3.3 ICTs as a Catalyst of Change

The transformative power of ICTs has brought critical implications for the creation of tourist experiences (Wang et al., 2012; Wang et al., 2013). For this study, it is therefore of particular interest to understand the key driving forces that render ICTs a possible catalyst of change. Recent academic conferences on ICTs in travel and tourism, such as the ENTER conferences, have illuminated several big technology areas that foster change. In a wide spectrum of topics, some of the most prominent areas include mobile technologies and context-aware systems, social media and social networks, smart tourism, smartphone applications, gaming and gamification, augmented reality, recommender systems, big data analytics as well as NFC smart city technologies (Xiang and Tussyadiah, 2014). Based on these insights, four broad themes of ICTs were assessed in relation to this study. These were conceptualised into a) *social media and networking*, b) *mobile technologies*, c) *the Internet of Things* and d) *smart technologies and tourism destinations*. Figure 2-8 demonstrates the technological driving forces that render ICTs a catalyst of change of the tourist experience.

Figure 2-8. Four Forces of ICTs as a Catalyst of Change



Source: Author

2.3.3.1 Social Media and Networking

Social media, unlike any other medium before, have embraced different people, technologies and new practices, which support tourists and tourist experiences (Xiang and Gretzel, 2010). Figure 2-9 presents the Conversation Prism 4.0, which provides a graphical overview of social media conversation tools and their respective purposes of use. These include social networks, crowd wisdom, social commerce, microblogs, livecasting, music, events, documents, video, location, wiki, discussion, business, review and ratings. The Web 2.0 has empowered consumers to participate and engage in a range of processes, including service design, production and marketing (Sigala, 2009).

Web 2.0 applications, such as wikis, blogs and social networking tools have had a massive impact on consumer behaviour and tourism (Fotis et al., 2011). They have not only altered how services are consumed on the Internet, but also changed how consumers locate, share, read, create and produce information (Sigala, 2011b). Two main factors arose within the Web 2.0, namely the facilitation of mass collaboration and communication, including the ability of networking, connectivity and collective knowledge (Sigala, 2009). The Web 2.0 has subsequently enabled consumers to become "*co-marketers, co-producers and co-designers of their service experiences by providing them a wide spectrum of values*" (Sigala, 2009, p.1345). As a result, social media are valuable tools for tourism businesses and tourists to dynamically engage, interact, comment and create experiences with each other (Dwivedi et al., 2012; Hays et al., 2012; Leung et al., 2013; Cabiddu et al., 2014).

Figure 2-9. Social Media Conversation Prism 4.0

Source: Solis (2014)

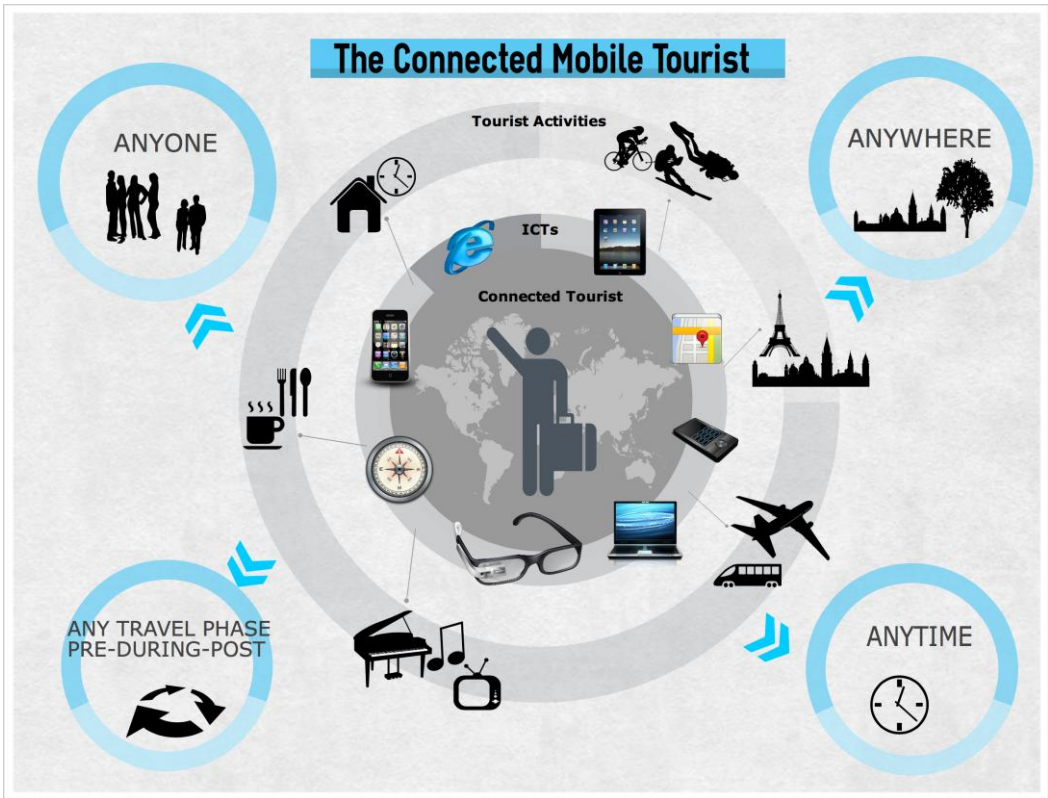
2.3.3.2 Mobile Technologies

The advances in people's mobility and the mobile market are highly relevant to tourism, and tourist experiences in specific, as one of the industries that can use the application of the mobile information medium most (Brown and Chalmer, 2003; Umlauft et al., 2003). Mobile devices, such as smartphones, tablets and handheld devices function as 'transportable smart computers' that can be accessed almost unlimitedly, anywhere the tourist goes (Wang et al., 2012). Due to their ubiquity and constant connectivity (Green, 2002), stationary access has been widely replaced by devices being dynamically used on the move (Schmidt-Belz et al., 2002). This has caused a behavioural transformation of tourists from "sit and search" to "roam and receive" (Pihlström, 2008 p.1). In allowing for geographical positioning and access to location-based and context-relevant

information, mobile devices have become key tools of the mobile 21st century and particularly the tourism industry (Egger and Jooss, 2010).

Mobile technologies have brought the Web 2.0 even closer to consumers, by enabling information retrieval with *any device*, *anywhere* and *at any time* (Bouwman et al., 2012). For instance, smartphones (Wang et al., 2012; Wang et al., 2013; Wang et al., 2014a), location based services (Schmidt-Belz et al., 2002; Pura, 2005), context-based services (Lamsfus et al., 2010), geo-based devices (Tussyadiah and Zach, 2011) and augmented reality applications (Yovcheva et al., 2013) have been increasingly implemented to connect, assist and provide tourist with the information needed. This has led to the emergence of a 'connected mobile tourist', who has a plethora of devices at disposal to conduct travel activities and engage with others online (Green, 2002). As a result, multiplied opportunities for experience facilitation, co-creation and enhancement have opened. In recognising the connected mobile tourist as the main actor and resource integrator of ICTs (McColl-Kennedy et al., 2009; Akaka and Vargo, 2014), Figure 2-10 has been developed. It portrays the tourist surrounded by ICTs devices, tourist activities and four parameters, which illuminate the possibility to co-create tourist experiences with anyone, anywhere, at anytime and in any travel stage.

Figure 2-10. The Connected Mobile Tourist



Source: Author

2.3.3.3 The Internet of Things

The Internet of Things (IoT) is the third catalyst of change identified. First defined by Kevin Ashton in the late 1990s, the IoT can be understood as a powerful system of connections capable to recognise, trace, manage and control any smart device independent of time and location (Mingjun et al., 2012). Conflating the words 'Internet' and 'Things', semantically it can be described as a global network of interrelated, heterogeneous objects, addressable based on standard communication (Atzori et al., 2010). The recent technological advances of devices becoming increasingly connected to the Internet have thus led to the emergence of an 'Internet of Things paradigm' (Fuentetaja et al., 2014). The proliferation of smart mobile devices has particularly contributed to the growth of IoT services in the ICTs domain and impacted upon numerous areas in people's everyday lives (Atzori et al., 2010). With the connection of devices and people to the Internet, currently 1.6 billion people have access to information, giving rise to knowledge exchange on a massive scale (Jara et al., 2014).

The IoT has created a digital environment in which simultaneous interactions between devices exchanging and storing real world information takes place (Atzori et al., 2010; Erb, 2011). The participatory nature of the system has allowed for the development of virtual platforms that permit the exchange of a variety of data (Buhalis and Amaranggana, 2014). These digital activities gave particularly rise to one phenomenon, characterised by enormous sets of information, commonly known as Big Data. The notion of Big Data is still in its infancy and even more so in tourism, where its application is still rare (Qiao et al., 2014). However, much potential is predicted for tourism organisations to use the Internet of Things and Big Data. The access to an abundance of data could unlock new ways in which information is used for interacting and creating experiences with consumers (Buhalis and Amaranggana, 2014). While the large adoption of the IoT for society and industry is still awaited, evidence suggests its great potential for smart cities and tourism destinations for stakeholders to access information, dynamically interact and create high value services and experiences (Buhalis and Amaranggana, 2014).

2.3.3.4 Smart Technologies and Tourism Destinations

Smart technology has become a prevalent term in recent years, particularly enforced by the convergence of the offline and the online domains, creating a new space for business opportunities (Lee, 2012). Smart technology, implying the words 'intelligent' and

'smart', has become a key trend, which beyond technological fields has been scarcely defined to date (Lee, 2012). With the increasing pervasiveness of technology throughout industries, the application of smart technologies has however become a main focus in a variety of contexts, including the design of education (McCardle, 2002), health home systems (Patsadu et al., 2012), energy monitoring in hotels (Rogerson and Sims, 2012), cities (Vicini et al., 2012), urban governance (Himmelreich, 2013) as well as business and retail storages (Lee, 2013).

In tourism, smart technologies and smart tourism destinations have been discussed as novel concepts only most recently (Lamsfus and Alzua-Sorzabal, 2013; Buhalis and Amaranggana, 2014; Ronay and Egger, 2014). With continuous technological developments, especially within the IoT, there has been growing evidence of smart technology implementation in cities and tourism (Vicini et al., 2012). Smart Tourism Destinations (STD) can be understood as areas where tourist products and services are offered (Buhalis, 2000), dynamic experiences are created and information is shared in real-time through digital platforms (Buhalis and Amaranggana, 2014). The core concept of STD is grounded in the notion of destination-wide access to real-time information (Zygiaris, 2013). As such, STD have the purpose to enhance tourist experiences, create satisfaction and maximise the destination's long-term attractiveness by making effective use of resources for long-term success and sustainability (Lamsfus and Alzua-Sorzabal, 2013; Buhalis and Amaranggana, 2014).

2.3.4 ICTs Transformation of the Tourist Experience

Having reviewed the driving forces that render ICTs a catalyst of change, it is critical to precisely understand how ICTs can transform the tourist experience. The pervasive adoption of ICTs in tourism has brought fundamental implications on the way travel is planned (Buhalis and Law, 2008) and the tourism product is created and consumed (Prahalad and Ramaswamy, 2003; Stamboulis and Skayannis, 2003). As early as in 1998, Pine and Gilmore predicted that ICTs would generate new types of experiences due to interactive games, chat rooms and virtual reality. A wealth of studies has recently underlined the impact of ICTs on the way contemporary consumer experiences (Chathoth, 2007; Kim and Ham, 2007; Law et al., 2009) and tourist experiences are created (Tussyadiah and Fesenmaier, 2009; McCabe et al., 2012; Wang et al., 2012; Frochot and Batat, 2013; Prebensen et al., 2013; Wang et al., 2013; Yovcheva et al., 2013; Tussyadiah, 2014).

ICTs have fostered a transformation of tourists from passive to active, static to mobile and connected tourists, who co-create experiences in a technology enabled experience environment (Prahalad and Ramaswamy, 2004b; Gretzel et al., 2006b; Andersson, 2007). Thereby, ICTs support a range of tourist activities, which can change existing and lead to new types of tourist experiences (Gretzel and Jamal, 2009; Volo, 2009). Numerous studies confirm the benefit of ICTs to enhance co-creation (Tussyadiah and Fesenmaier, 2007; Gretzel and Jamal, 2009; Tussyadiah and Fesenmaier, 2009) and enable more personalised, meaningful and intense co-creation experiences (Prahalad and Ramaswamy, 2004b).

In this vein, Huang and Hsu (2010) state that it is crucial to capture the changes that technology implies. Thereby it is not the technological development on functional terms itself, but the integration of technology into the experience, which is of prime interest (Darmer and Sundbo, 2008). While it is important to recognise that technology can function as a creator, enhancer or destroyer of the experience (Stipanuk, 1993), the potential of ICTs to positively enhance tourist experiences is at the very core of this study. With this premise in mind, the subsequent sections turn to assess ICTs as a resource, before discussing its integration into the stages of the tourist experience.

2.3.4.1 ICTs as a Resource in Tourist Experience Co-Creation

One of the foundational premises of the S-D logic is the integration of resources. With ICTs at the core of this study, it is critical to assess ICTs as a resource that, when integrated, has the potential to transform the tourist experience into a *Technology Enhanced Tourist Experience*. The S-D logic thus provides a valuable lens through which to conceptualise and empirically explore ICTs as a resource (Akaka and Vargo, 2014) in the tourist experience co-creation process. The role of information technology as a resource has been discussed as early as in the 1990s. On a basic level, it has been described as a resource that 'supports people to perform information processing' activities (Orlikowski and Robey, 1991). Within the recent advances in the S-D logic, the conceptual understanding of ICTs as a resource has however remained limited. In fact, the nature and role of technology within the S-D logic is in its infancy and has been scarcely explored to date (Akaka and Vargo, 2014). Only most recently, scholarship has started to open a debate on the role of technology as a resource in service systems, value co-creation propositions and innovation (Maglio and Spohrer, 2008; Maglio et al., 2009; Akaka and Vargo, 2014; Lusch and Nambisan, 2015).

For instance, Akaka and Vargo (2014) assessed technology as an operant resource within service (eco)systems, while Maglio and Spohrer (2008) conceptualised technology within the emerging service science as an integral element of the service system and Lusch and Nambisan (2015) discussed the role of technology as an operand and operant resource. Previous perspectives have only provided an incomplete picture of technology, which has been predominantly portrayed as an artefact and outcome of human action (Orlikowski, 1992). In adopting a S-D logic lens, Akaka and Vargo (2014, p.368) define technology as "*a collection of practices and processes, as well as symbols that are drawn upon to serve a human purpose*". In light of these arguments, it is critical to determine the role of ICTs as an operand or operant resource for this study.

Consumers integrate a wide range of operand and operant resources in experience and value co-creation processes (Vargo and Lusch, 2011). Among the first studies to extensively discuss the consumer's integration of operand and operant resources was Arnould et al. (2006). They conceptualised operand resources as passive resources that require to be acted upon, primarily described as tangible and physical resources. Operant resources, in contrast, are defined as resources that are operated on another resource, including both operand and operant resources, to create an effect and make it valuable (Vargo and Akaka, 2012). While the distinction between *operand* and *operant* resources has been established in this study (section 2.2.3.3), the characteristics of ICTs as a resource are less obvious. In fact, diverging views on technology exist, challenging the classification of ICTs as an operand or operant resource (Akaka and Vargo, 2014).

In evaluating the characteristics of technology as an artefact (Gretzel and Jamal, 2009), ICTs could be conceptualised as an *operand* resource, which requires operant resources (e.g. human skills) to be drawn upon to create value (Vargo et al., 2008). By building on the structurational model of technology by Orlikowski (1992), Akaka and Vargo (2014), develop a different view by conceptualising technology as an *operant* resource. It is one that "*facilitates and constrains human action through the provision of interpretive schemes, facilities and norms*" (Orlikowski, 1992, p.410). As an *operant* resource, technology thus has the capability to act on other resources and influence human action (e.g. human behaviour) to create value.

Taking into account these contrasting views, it can be argued that the conceptualisation of technology depends on the scope for which it is employed. Technology can be considered an operant resource when it is used to facilitate, serve and fulfil human

purposes, and ultimately creates value for its user (Akaka and Vargo, 2014). As such, it can act "*as a means of satisfying higher-order needs (i.e. enhancing the customers' own operant resources)*" (Cantone and Testa, 2014, p.507). Considering the aim is to explore how ICTs can enhance the tourist experience, ICTs are conceptualised as *operant resources* in this study.

While the central interest is to understand the enhancement of the tourist experience, the phenomenological nature of resource integration and value creation is taken into consideration (Vargo et al., 2008; Chandler and Vargo 2011; Helkkula et al., 2012). The integration of ICTs is contextually shaped by the individual as the resource integrator and the contextual situation, in which resources are integrated and evaluated (Prebensen et al., 2013). As a result, the integration of ICTs might induce a co-creation (enhancement) or co-destruction (diminishment) of the tourist experience and value. The findings regarding ICTs as a resource are illuminated in Chapter 6.2. The role and integration of ICTs into the travel stages of the tourist experience are discussed next.

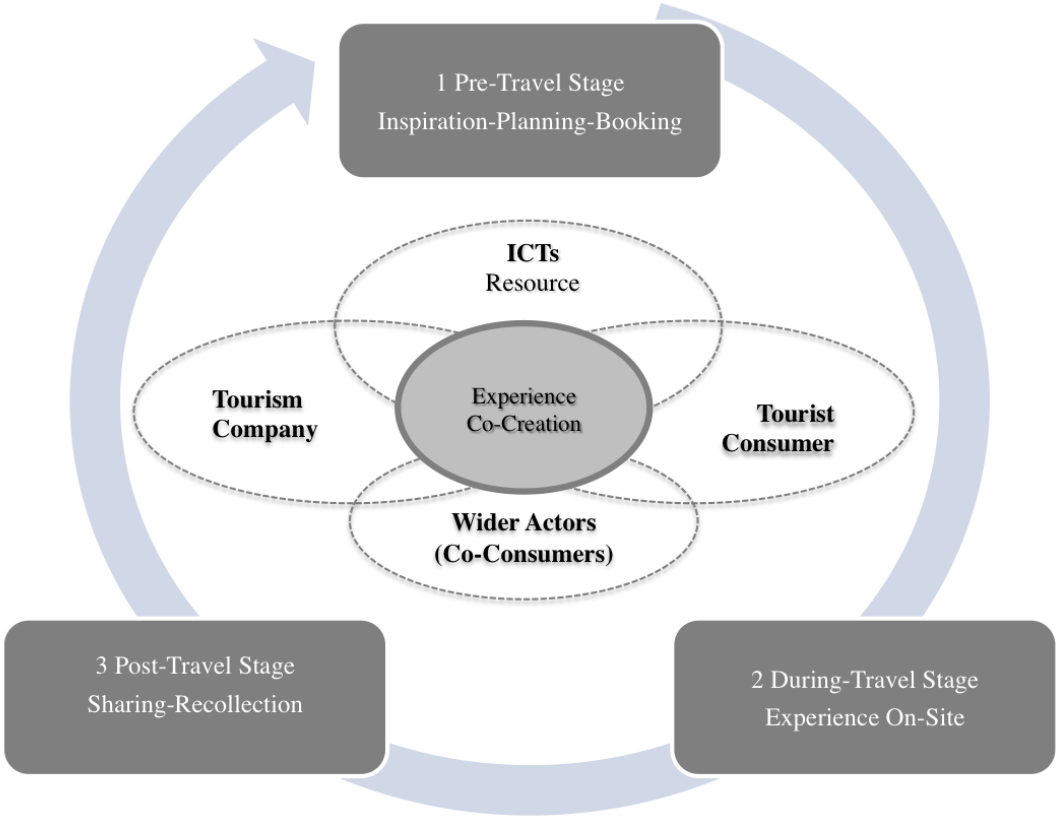
2.3.4.2 ICTs in the Stages of the Tourist Experience

By integrating ICTs as a resource, tourist experiences and experience co-creation can be taken to a new level (Gretzel and Jamal, 2009; Tussyadiah and Zach, 2011; Wang et al., 2013), in terms of their temporal and geographical dimensions. ICTs change not only *when* and *where* but also *how* experiences can be facilitated and enhanced. ICTs surround the tourist anywhere and at any time, which has led to unprecedented possibilities to foster experiences everywhere along the value creation system, i.e., the whole travel process. In line with the earlier recognised portrayal of the tourist experience as a multi-phasic phenomenon (Arnould and Price, 1993; Craig-Smith and French, 1994) (section 2.1.3.2), it is critical to understand how ICTs enhance the tourist experience. The creation of tourist experiences is not restricted to a single service encounter on-site (Mossberg, 2003), but is extended to the pre/during/post travel stages (Stickdorn and Zehrer, 2009). ICTs represent facilitating tools, which accompany the tourist from the anticipatory stage to the destination on-site and the recollection stage (Green, 2002; Mossberg, 2003; Gretzel et al., 2006a; Gretzel et al., 2006b; Gretzel and Jamal, 2009; Tussyadiah and Fesenmaier, 2009; Huang et al., 2010; Fotis et al., 2011).

In this process, ICTs support tourists in various activities, such as the preliminary information search, comparison, decision-making, travel planning, communication, retrieval of information and post-sharing of experiences. Depending on the tourist's

respective information needs, the necessary tools, such as websites, travel blogs, recommendation systems, virtual reality, social media and mobile devices come into use (Xiang and Gretzel, 2010; Sigala, 2012b; Leung et al., 2013). In recognising the need to capture the multi-stage nature of the tourist experience and the potential of ICTs integration, this study advocates a *holistic* view. With a multitude of ICTs available to the tourist along every step of the journey, it is necessary to understand *where* and *how* ICTs might be integrated to enhance tourist experiences. This section now seeks to compartmentalise the travel process and to examine the integration of ICTs in the pre-travel, during-travel and post-travel stages, graphically depicted in Figure 2-11.

Figure 2-11. ICTs in the Travel Process



Source: Author

1. Pre-Travel Stage: Getting inspired, planning, decision-making, booking.

Due to the intangible nature of tourism services, which can only be consumed on-site, the pre-travel stage is critical to provide information of the experience to be consumed and created (Frochot and Batat, 2013). Technological tools, such as social media and virtual worlds, play a particularly powerful role to provide information, assist in planning and enable tourists to visualise and pre-experience destinations before the

physical travel (Xiang et al., 2014). Several studies demonstrate that tourists start dreaming, seeking inspiration and exploring information and advice from others before they travel (Xiang, 2011). The pre-travel stage is thus a socially intense phase, in which social media play an important role (Xiang and Gretzel, 2010; Fotis et al., 2011; Xiang et al., 2014) to assist in the travel planning process (Sigala, 2010). Cho and Fesenmaier (2001) explain that tourists, when seeking information, do not simply want to gather facts. Instead, they want to 'pre-live' the destination. Interactive multimedia content (e.g. videos and photos) and real-time information (e.g. live cams and weather forecast) engage and allow tourists to pre-experience travel online (Frochot and Batat, 2013).

In doing so, the tourist consumer gets emotionally involved, which can influence decisions about where to go and what to do. For instance, the use of online technology in the National Gallery of London allows visitors to view paintings, gather details and pictures on demand without the tourist even being there (Bartak, 2007). Moreover, a number of tourism destinations, such as Sweden, Thailand and Puerto Rico have successfully demonstrated how to engage and interact with tourists online, by encouraging them to share images, stories and videos with the travel community (Buhalis and Wagner, 2013). This underlines the importance to facilitate active engagement in the pre-travel stage by co-creating with consumers in the available spaces online (Kohler et al., 2011; Sigala, 2012a; Sigala, 2012b; Brodie et al., 2013).

2. During-Travel Stage: Experiencing the tourism destination.

The actual travel stage, often referred to as the on-site stage in the tourism destination, is essentially characterised by the tourist being on the move. When travelling to a destination or place that is unknown, tourists often have high information needs to find locations, directions or information (Frochot and Batat, 2013). In this stage, mobile technologies have become key tools that can facilitate the experience while transiting to/from a destination and moving through the destination space. Due to their numerous features, such as ubiquity, context sensitivity and control functions (Bazijanec et al., 2004), mobile devices have enabled tourists to use services on the move (Balasubramanian et al., 2002; Schmidt-Belz et al., 2002) and retrieve information anywhere and at any time (Wang et al., 2012). Moreover, emerging mobile technologies, such as location based services and context-based services (Beer et al., 2007; Grün et al., 2008), gamification (Xu et al., 2014) and augmented reality apps

(Linaza et al., 2012; Yovcheva et al., 2013) play an increasingly significant role in enhancing the place experience on-site (Tussyadiah and Zach, 2011).

Particularly the use of augmented reality applications enables tourists to overlay reality with virtual spatial information to enhance the tourist's physical surrounding, and in turn the overall tourist experience on-site (Yovcheva et al., 2013). Beyond supporting tourists in the physical environment, ICTs also play a key role in keeping the tourist connected in the online space at the same time. By being connected to social networking sites, such as Facebook and Twitter, tourists can engage and share events with people in real-time (Tussyadiah and Fesenmaier, 2009). Sharing while being immersed in the tourism destination is a phenomenon, which Östman (2008) calls 'life publishing'. In this context, tourists not only have the possibility to take pictures, but can also immediately share them with others, while still living the experience (Green, 2002). The on-site phase can thus be considered the stage with the most possibilities, by allowing for multiple levels of co-creation of experiences in the offline and online space.

3. Post-Travel Stage: Remembering, sharing, recollecting, inspiring.

Besides their integration in the pre-travel and during-travel stages, ICTs play an equally critical role after the tourist's return to the home environment. In the post-travel stage, ICTs principally serve to engage, recollect, remember and share experiences with tourism organisations, the own social network and other users alike (Fotis et al., 2011). For instance, social media, such as blogs or networking sites, enable tourists to interact (Gretzel and Jamal, 2009) and share multimedia content, such as pictures and videos with others (Tussyadiah and Fesenmaier, 2009). Likewise, travel review websites, such as TripAdvisor, are instrumental for tourists to share their experiences, views, recommendations and suggestions with likeminded individuals after travel (Miguens et al., 2008; Munar and Jacobsen, 2014; See-To and Ho, 2014).

By encouraging tourists to share comments on Facebook, upload videos on YouTube or write reviews on TripAdvisor, businesses are able to engage, build trust and more long-lasting relationships (Sigala, 2011a; Buhalis and Wagner, 2013). This allows tourists to reconstruct their experiences (Gretzel and Jamal, 2009), remember travel and share their satisfaction with other potential consumers (Frochot and Batat, 2013). As such, the integration of ICTs in the post-stage has not only the potential to rebuild tourists' past experiences. They also support the beginning of the dreaming stage, in which

inspiration for future travel is gathered by others (Fotis et al., 2011). Having reviewed the three literature streams of the tourist experience, co-creation and ICTs as the theoretical foundation of this study, the research gaps of this study are outlined next.

2.4 *Research Gaps*

In undertaking the literature review, several research gaps have been identified within each of the three respective theoretical streams of the study, embedded within the wider services marketing and management discipline. These research gaps have subsequently informed the development of the conceptual framework, presented in section 2.5.

Research Gap 1: Theoretical Framework of the Tourist Experience

The first gap in knowledge identified is related to the tourist experience construct. While there have been theoretical developments since the 1960s (Ritchie and Hudson, 2009; Volo, 2009), the tourist experience still represents an under-researched area in tourism (Larsen, 2007). Specifically, knowledge about the nature and creation of consumer experiences on both theoretical and managerial levels is limited (Zehrer, 2009; Murray et al., 2010). The missing understanding of the tourist experience can be ascribed to its complexity (Jennings et al., 2009), which makes it one of the most difficult endeavours to research (Ritchie and Hudson, 2009; Ritchie et al., 2011).

To date only a dearth of studies have attempted to examine the tourist experience from a holistic perspective (Cutler and Carmichael, 2010; Kim et al., 2011; Ritchie and Hudson, 2009; Ryan, 2010). The majority of work has focused on single phases, influences and outcomes of the tourist experience as distinct entities, rather than combining these. This has rendered the tourist experience a largely fragmented concept with a multitude of inherent components (Cutler and Carmichael, 2010). A solid, and most importantly, holistic theoretical understanding of the tourist experience is needed, before being able to explore the how the tourist experience can be enhanced by ICTs. *This study addresses Research Gap 1*: by distilling the essence of the tourist experience and exploring the elements that constitute the concept. This research gap is addressed through Research Objective 2:

Research Objective 2

To identify the granular elements of the tourist experience

Research Gap 2: Experience Co-Creation Theory

The second research gap emerged in the literature is concerned with the recent paradigm shift within services marketing and management towards the S-D logic perspective and experience co-creation. The advent of this new paradigm has had major implications on the way contemporary consumer experiences are created (Prahalad and Ramaswamy, 2004b). Moving away from the company-dominated principles of the experience economy (Pine and Gilmore, 1999), experience co-creation has emerged as a novel practice that recognises companies and consumers in a conjoint resource integration for experience and value creation (Edvardsson et al., 2011; Grönroos, 2011; Ramaswamy, 2011; Vargo and Akaka, 2012). Several gaps emerge from this paradigm change, which this research seeks to address.

This study first recognises the paradigm shift that moves beyond the experience economy and adopts the latest theoretical perspectives instead (Prahalad and Ramaswamy, 2004b; Vargo et al., 2008). While co-creation has gained significant attention, particularly in recent years, much of the work has been of conceptual nature and its application in the tourism domain has been relatively scarce to date (Shaw et al., 2011; FitzPatrick et al., 2013; Sfandla and Björk, 2013; Rihova et al., 2014). *This study addresses Research Gap 2*: by adopting the S-D logic and experience co-creation as the key theoretical concepts, applying them to the context of tourism and conducting an empirical study that contributes to a two-fold company-consumer understanding of experience co-creation. This gap is addressed within Research Objective 3.

Research Objective 3

To explore the role of ICTs in enhancing the tourist experience and the experience co-creation process from a two-fold company-consumer perspective

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Research Gap 3: ICTs in Tourist Experience and Experience Co-Creation

The third research gap relates to the impact and integration of ICTs within the tourist experience and the embedded experience co-creation process. Despite the fundamental impact of ICTs on the tourist experience, scholars testify a major gap in understanding the role of various technologies in changing, mediating and enhancing the tourist experience (Tussyadiah and Fesenmaier, 2007; Tussyadiah and Fesenmaier, 2009;

Gretzel et al., 2011; Wang et al., 2012). In addition to a lack of studies exploring this phenomenon in general, only recently research has gone beyond recognising the impact of ICTs and started to empirically explore how transformations within the tourist experience occur (Wang et al., 2013).

While several studies have recognised a plethora of ICTs in this context, it appears that much work has focused on single types of ICTs, such as virtual worlds or smartphones (Guttentag, 2010; Huang et al., 2010; Wang et al., 2012). However, there exists a lack of studies, which explore ICTs holistically, by examining the full range of ICTs and their impact on the tourist experience. *This study addresses Research Gap 3*: in making an original contribution to knowledge by conceptualising and empirically exploring ICTs in the tourist experience. This study thereby investigates the holistic integration of ICTs in the pre/during/post travel stages of the tourist experience. This gap is addressed by Research Objective 1 and Research Objective 3.

Research Objectives 1 and 3

To explore the changing nature of the tourist experience and the experience co-creation process in terms of the implementation of ICTs in the pre/during/post phases of the travel process

To explore the role of ICTs in enhancing the tourist experience and the experience co-creation process from a two-fold company-consumer perspective

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Research Gap 4: Holistic Integration towards a Technology Enhanced Tourist Experience

The fourth, and perhaps most intriguing research gap, which is unique to this study, is that no work to date has attempted to combine the theoretical advances of the tourist experience, experience co-creation and ICTs into one single concept. While recent academic work has added value to each stream individually, the scientific discourse has been incomplete. It has neglected to explore the interdependence and the full complexity of these theoretical constructs in an understanding of contemporary tourist experiences. As a result, *this study addresses Research Gap 4:* by raising the need to combine the three literature streams into one single study. This study addresses the need by being the first research to combine these streams and holistically conceptualise and empirically explore these within the concept of the *Technology Enhanced Tourist*

Experience. Through the various research objectives and specifically, Research Objectives 4 and 5, this study establishes the processes, co-creation and factors, and develops a holistic theoretical model of the *Technology Enhanced Tourist Experience*.

Research Objectives 4 and 5

To identify the factors that constitute a Technology Enhanced Tourist Experience

To develop a holistic theoretical model of the Technology Enhanced Tourist Experience

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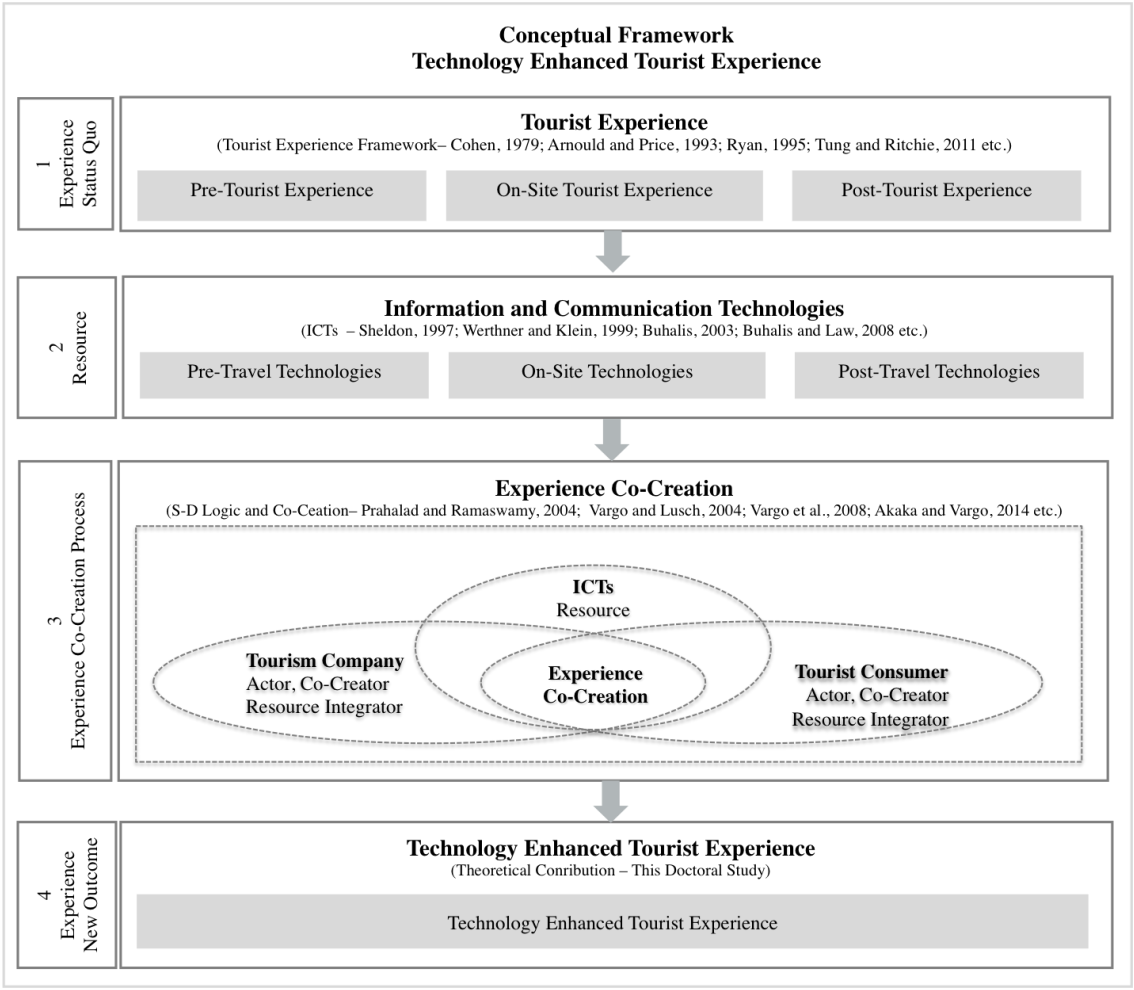
2.5 *Conceptualising the Technology Enhanced Tourist Experience*

Following the foregone discussion of the three theoretical streams (sections 2.1-2.3) and the identified research gaps (section 2.4), it is now time to conflate the knowledge to conceptualise the *Technology Enhanced Tourist Experience* as a novel concept. Figure 2-12 introduces the Conceptual Framework of the *Technology Enhanced Tourist Experience*. Drawing upon the three streams reviewed (tourist experience, experience co-creation and ICTs), it establishes a link between, until now, separated concepts that are amalgamated in one study. The conceptual framework can be interpreted as a process framework in that it depicts how a) the status quo of a subject changes, as b) novel perspectives are integrated, and c) a new knowledge outcome is obtained. Specifically, it illustrates the process of knowledge development from:

the ***Tourist Experience*** to the ***Technology Enhanced Tourist Experience.***

In detail, the conceptual framework can be explained as follows. At the top level it portrays the tourist experience (*status quo*). It then goes on to introduce ICTs as the catalyst of change (*resource*), which transforms the traditional tourist experience. This leads to a changed experience co-creation (*process*), in which companies and consumers integrate ICTs to co-create and enhance the tourist experience. As these elements become integrated, the *Technology Enhanced Tourist Experience* emerges, as a new concept and the core theoretical contribution (*outcome*) of this study.

Figure 2-12. Conceptual Framework Technology Enhanced Tourist Experience



Source: Author

1) Status Quo: Tourist Experience

Before understanding the Technology Enhanced Tourist Experience, the theoretical foundation of the 'traditional' tourist experience needs to be explored. It is drawn upon the theoretical framework presented in Chapter 2.1. The tourist experience is presented as multi-phase phenomenon in terms of its chronological and temporal nature (Clawson and Knetch, 1966; Arnould and Price, 1993; Craig-Smith and French, 1994). To explore the concept holistically, a pre/during/post travel stage approach (Stickdorn and Zehrer, 2009) is adopted, which is reflected in the empirical exploration of this study.

2) Resource: Information and Communication Technologies

ICTs offer a wide range of tools that can support tourists in the travel process (Gretzel and Jamal, 2009; Tussyadiah and Fesenmaier, 2009). The ubiquity of ICTs has enabled tourists to use any device, anywhere at anytime, leading to unprecedented possibilities to create enhanced experiences throughout the travel process. The role of ICTs in the

tourist experience is thus holistically explored in the pre/during/post travel stages. Due to its transformative power, technology is conceptualised as a resource that becomes a catalyst of change. It has the potential to facilitate the tourist experience (Tussyadiah and Fesenmaier, 2007; Gretzel and Jamal, 2009; Tussyadiah and Fesenmaier, 2009) and lead to new types of experiences (Gretzel and Jamal, 2009), such as the *Technology Enhanced Tourist Experience.* This component of the conceptual framework is based on the literature reviewed in Chapter 2.3.

3) Process: Experience Co-Creation

ICTs have become central in the co-creation of tourist experiences (Sigala, 2012a; Schmidt-Rauch and Schwabe, 2013; See-To and Ho, 2014). As tools for communication and interaction, they have changed the way in which companies and consumers engage (Binkhorst and Den Dekker, 2009). Numerous studies (Tussyadiah and Fesenmaier, 2007; Gretzel and Jamal, 2009; Tussyadiah and Fesenmaier, 2009) attest ICTs a central role in experience co-creation processes. By integrating ICTs as a resource (Akaka and Vargo, 2014), new possibilities have emerged for tourism companies and tourist consumers to co-create enhanced experiences together. The conceptual basis for this component is reviewed in Chapter sections 2.2 and 2.3.

4) Outcome: Technology Enhanced Tourist Experience

In drawing upon, and empirically exploring, these changes, the *Technology Enhanced Tourist Experience* is anticipated to emerge as the core theoretical contribution of this study. Overall, the conceptual framework depicted above contributes on four main levels. It a) amalgamates three, until now, separated theoretical streams into one study, b) provides the overall guidance and structure for this research, c) offers the structural foundation for the research process, data collection and data analysis and d) shows the process that leads from the status-quo of knowledge to the theoretical contribution of this thesis. The conceptual framework offers an original conceptualisation based on the foregone literature review (2.1 to 2.3). It is revisited later in Chapter 7 Theory Development and Discussion, based on the empirical evidence gathered to develop the final theoretical model of the *Technology Enhanced Tourist Experience*.

2.6 *Chapter Summary*

Chapter 2 Literature Review has provided a review of the three main theoretical streams underpinning this study. It first reviewed the theoretical framework of the *tourist experience*. By doing so, it has offered an overview of the theoretical developments over the past 50 years and tackled the comprehensiveness of the concept by assessing its subjectivity, multi-phasic nature and complexity. It then analysed a vast number of definitional approaches and definitions emerged from various disciplines, based on which a synthesised definition of the tourist experience could be created. Finally, a brief reflection on the terminology was provided explaining the rationale and justification of why the term *Technology Enhanced Tourist Experience* is adopted in this study.

The second part of the literature review introduced the concept of *experience co-creation*. Theoretically embedding the concept within the wider services marketing and management discipline, the first section introduced the discipline and reviewed its development from the product to the experience economy. Following, the main paradigm shift was highlighted by discussing the changing role of consumers and the emergence of the S-D logic, as the theoretical lens supporting this study. Grounded within the S-D logic assumptions, experience co-creation was then introduced. A review of its theoretical development was provided, before the notions of actors, resource integration and value were discussed. The final part shifted the focus to contextualise the concept in tourism, as the context of the study and concluded by discussing the innovation of experience co-creation in light of ICTs.

The third section shed light on *ICTs* as the catalyst of change transforming the tourist experience. It provided a definition and classification of ICTs and discussed its progress and development in tourism. Four technological drivers were conceptualised, including the Internet, social media, smart technology and the mobile sector. In adopting a S-D logic lens, ICTs were then conceptualised as an operant resource within the tourist experience co-creation process before its integration in the travel stages were highlighted. Concluding the literature review, the final section identified the research gaps and conceptualised the *Technology Enhanced Tourist Experience* as an original and novel concept. The main contribution emerging from the literature review is a comprehensive conceptual framework that theoretically and graphically interlinks the three literature streams and provides the conceptual underpinning for this research. Chapter 3 now turns to outline the methodological foundations of this study.

CHAPTER 3:METHODOLOGY

Chapter 3 Methodology outlines the methodological underpinning of the research. The overall aim is to explore how tourist experiences can be enhanced by ICTs, through company-consumer experience co-creation, in the pre/during/post stages of the travel process. The chapter first sets out to provide a discussion of the underlying ontological and epistemological assumptions of the study, which leads on to a debate of prevalent research paradigms. While positivist, interpretivist, social-constructionist and critical realism stances are reviewed, pragmatism is selected as the appropriate paradigmatic stance to address the overall aim and the five research objectives through the combination of mixed methods (Teddlie and Tashakkori, 2010). The research strategy is discussed subsequently, explaining the theory development, the use of primary and secondary data, before presenting the research approach adopted in this study.

In reviewing the tourist experience, co-creation and ICTs literature streams, not only the most common methods were identified, but most importantly, the appropriate methods in relation to this research were selected. The research strategy of a three-stage qualitative mixed methods approach is presented by outlining the rationale for adopting a qualitative approach and, specifically, a qualitative mixed methods strategy. The chapter next provides an overview of the research design, before turning to explain each method of the research process in detail. The discussion of each research phase offers the reason for adoption, an outline of the overall design and a detailed description of the data collection and data analysis process. The chapter concludes with a reflection on the limitations, validity and reliability of the research, ethics, health and safety considerations and a reflexive discussion on the role of the researcher in this process.

3.1 *Research Philosophy*

The underlying questions regarding the choice of the research philosophy are of primary importance, as these define the fundamental belief system that governs not only the selection of the methods, but the ontological and epistemological assumptions that underline this research. Three major ways of thinking, namely ontology, epistemology and axiology (Collis and Hussey, 2003; Teddlie and Tashakkori, 2010) have been considered to determine the adequate paradigmatic position that underpins this study.

Ontology surrounds the assumptions about the beliefs of the nature of reality and the question of what actually constitutes reality. Epistemology, in contrast, is mainly concerned with the nature of knowledge and the way knowledge is acquired (Teddlie and Tashakkori, 2010). Epistemology seeks to understand the theory of knowledge with its principal interest in "*the meaning of the term knowledge, the limits and scope of knowledge and what constitutes a valid claim to know something*" (Tribe, 2004, p.46). The third philosophical consideration is axiology, which embeds critical beliefs about the role of values in the research process (Holden and Lynch, 2004; Teddlie and Tashakkori, 2010). According to Guba (1990) assumptions in these three areas of thought shape the nature of a particular research paradigm. For the purposes of this study, it is critical to examine the prevailing research paradigms with their embedded philosophical assumptions.

In social sciences there generally exist five prevalent research paradigms, which comprise positivism, interpretivism, social constructionism, realism and pragmatism (Guba and Lincoln, 1998; Alvesson and Sköldberg, 2009; Saunders et al., 2009). While these constitute the most commonly applied paradigmatic doctrines, these are not exhaustive, but rather represent the most dominant ones in a wider spectrum of paradigms. In this vein, Jennings (2006) highlight that several paradigms, such as post-positivism, critical theory or post-modern thinking can offer valuable paradigm perspectives for a range of enquiries of research.

What the entire paradigmatic spectrum has in common is the central question of whether, and to what extent, the social world can be studied following the same principles as natural sciences (Saunders et al., 2009). Within social sciences and the services marketing domain, the positivism-interpretivism dichotomy has provided the prevailing philosophical choice (Holden and Lynch, 2004). This has produced a controversial discussion of how the social world is viewed and how knowledge can be obtained. While this study acknowledges the long-standing tradition of the positivist-interpretivist dichotomy, it coincides with numerous scholars (Phillimore and Goodson, 2004; Morgan and Watson, 2007; Lincoln, 2010; Maxwell and Mittapalli, 2010; Teddlie and Tashakkori, 2010) advocating the need for a more comprehensive and profound appraisal of philosophical assumptions prior to commencing research.

3.1.1 Ontological, Epistemological and Methodological Paradigm Considerations

The five prevailing paradigms in social sciences include positivism, interpretivism, social constructionism, critical realism and pragmatism (Saunders et al., 2009). These are introduced and discussed in subsequence with the scope to identify the most suitable paradigm for this research.

Positivism

The ontological position strongly aligned with the principles of natural sciences, is positivism. Positivism assumes one single truth in an objective reality, independent of human factors (Sale et al., 2002). It accepts an independence between the researcher and the subject of research, by neither influencing the phenomenon of study nor being influenced by it (Sale et al., 2002). The main endeavour of positivism, predominantly manifested in quantitative methods, is to measure and analyse causal relationships (Denzin and Lincoln, 1994) and generate valid and value-free results (Collis and Hussey, 2003). From an epistemological and axiological perspective, the principal idea is to conduct highly structured and rigid procedures. These aim at acquiring knowledge from an objective reality to develop law-like value-free statements, which in turn allow for replication and future research to build upon (Gill and Johnson, 2002; Alvesson and Sköldberg, 2009). Despite its inherent benefits of producing rigid research processes and outcomes, positivism has been critiqued as being superficial, relying on observing measureable phenomena and one-dimensional thinking (Bell, 1997).

Interpretivism

Interpretivism, on the opposing end of the continuum, recognises a high level of complexity embedded in the social world (Denzin and Lincoln, 2005). In contrast to positivism, ontologically, it neglects the simplistic view that the world consists of one observable reality and assumes that multiple realities and truths can be found (Sale et al., 2002). Interpretivism is hence the predominantly adopted perspective to overcome the insufficiencies of the positivist tradition (Saunders et al., 2009). It enables to "*identify the meanings that consumers attach to their consumption experiences through the careful use of qualitative frameworks of inquiry*" (Pachauri, 2002, p.343). On epistemological and axiological grounds, interpretivism assumes a subjectivist stance in advocating an interdependence and mutual influence between the researcher and the

subject studied. This allows for the acknowledgement of feelings and values of the researcher in the process of exploring the social world (Denzin and Lincoln, 1994; Guba and Lincoln, 1994). While a long tradition of interpretivism exists, it does not provide a unified paradigm, but embeds several variations, such as constructivist, critical and de-constructionist stances (Goldkuhl, 2012).

Social constructionism

Social constructionism can be considered as an intense stream of interpretivism and an extreme opposite of positivism with the ontological assumption that reality is entirely socially constructed (Crotty, 1998; Alvesson and Sköldberg, 2009). With its roots in phenomenology, the key assumptions suggest that reality is constructed in social interactions of human beings in the world. Social constructionism is thus primarily concerned with understanding how phenomena are socially constructed (Crotty, 1998) and how people construct their worlds (Williamson, 2006). While accepting that society and institutions are constructed through individual meanings (Berger and Luckmann, 1967), Alvesson and Sköldberg (2009) however claim that science should not only be interested in how phenomena are constructed. Instead, they advocate the need for some objectivity that social constructionism as an extreme perspective neglects to provide.

Critical realism

The paradigm critical realism, introduced by the philosopher Roy Bhaskar (1975), has been recognised as an intermediate position, which bridges the quantitative-qualitative gap by showing no inclination towards one or another (Alvesson and Sköldberg, 2009). In the past, the anti-positivist attitude has long constituted enough justification to select an interpretivist approach. However, with critical realism a new alternative has emerged, which has forced researchers to engage in a deeper theoretical discussion to justify their choices beyond the positivism-interpretivism dichotomy. Critical realism has been introduced as an alternative paradigm that suits both qualitative and quantitative approaches as well as mixed methods research (Johnson and Gray, 2010). Ontologically, it considers the world as independent from human beings and their perceptions and constructions of the world (Maxwell and Mittapalli, 2010). While it generally aims for generalisation, unlike positivism, it seeks to analyse the world in terms of underlying mechanisms, events and experiences to capture empirical phenomena (Bhaskar, 1978; Lipscomb, 2008; Maxwell and Mittapalli, 2010).

Pragmatism

Unlike the four paradigms reviewed above, which are deeply grounded in philosophical assumptions, pragmatism advocates that considerations of epistemology, ontology and axiology are secondary. Rather, research should be guided by the underlying research question, accepting the fact that different questions may require different paradigm positions in one study (Saunders et al., 2009). As a result, the classic metaphysical ontology-epistemology-axiology, and in turn methodology, discussion is often rejected (Morgan, 2007). Instead, the central tenet of the paradigm is to focus on *what works best for the research in practice* (DeForge and Shaw, 2012).

From an epistemological view, pragmatists advocate that knowledge is obtained by a combination of action and reflection with an emphasis on the envisioned outcomes, rather than the view about the world out there (Biesta, 2010). Teddlie and Tashakkori (2010) hence propose pragmatism as a unique position that allows avoiding protracted discussions of truth and reality, if the aim is to find answers to a research question that is of value to the researcher. Therefore, the central philosophical principle underpinning pragmatism is whether the proposed research question(s) would unquestionably fit into one paradigm. In case these cannot be unambiguously allocated to one paradigm, pragmatism can be considered as a suitable stance (Biesta, 2010; DeForge and Shaw, 2012). Due to its benefits for complex and mixed research enquiries, pragmatism has become a well-established perspective that has been increasingly advocated and adopted in social sciences and business research (Creswell, 2003; Nudzor, 2009; Teddlie and Tashakkori, 2010).

Summarising the five reviewed paradigms, it is evident that all have different embedded ontological, epistemological and axiological assumptions and in turn, methodological implications. While positivism, interpretivism, social constructionism and critical realism are based on the metaphysical framework, pragmatism is distinct by radically rejecting the same. Table 3-1 and Table 3-2 present the five paradigms, with interpretivism, and its extreme variation social constructionism, synthesised in one stream. This overview provides a summary of the key philosophers, assumptions, purposes, logics and underlying metaphysical considerations inherent in each paradigm as a valuable foundation to select the research paradigm for this study.

Table 3-1. Belief Systems of Paradigms of Enquiry

Paradigm	19th century ← Positivism	Late 1960s Interpretivism & Social Constructionism	1970s Critical Realism	19th century/1950s → Pragmatism
Key Philosophers/ Authors	Comte (1844) Nietzsche (1901)	Berger and Luckmann (1966) Schutz	Bhaskar (1975)	Peirce (1839-1914) James (1842-1910) Dewey (1859-1952)
Key Assumptions	Data or facts must be observable; Something that *exists, is (already) there*, and the purpose of research is to gather and systematize them; Knowledge comes as single sense-data, theories are human-made linkages between these single data	Key assumption is that social reality is a social construction, the only thing worth investigating is how this construction is carried out; Social phenomena, which are always dependent on mutual, subjective attributions of meaning, cannot have a real, objective existence	World independent of human beings and deep structures can be represented by scientific theories; Interest in complex networks of theoretical and observable elements beyond the surface; Criticising the superficiality of the observable	Key assumption is "whatever works"; Focus is on instrumentally developing workable solutions to on-going social problems
Purpose	Main purpose is to test theory and produce law-like statements for verification or falsification	Main purpose is to explore phenomena and how social constructions happen	Purpose is to explore underlying mechanisms and structures behind phenomena to develop theory	Main purpose is to use the most appropriate approach that fit the underlying research questions
Methodology/Logic	**Experiments/ surveys:** Verification of hypothesis; chiefly quantitative methods; Deductive	**Hermeunetical/ dialectical:** researcher is a 'passionate participant' with the world being investigated; qualitative methods; Inductive	**Case studies/ convergent interviewing:** triangulation, interpretation of research by qualitative and quantitative methods; Deductive and Inductive	**All methods:** Whatever method works best for underlying purpose; qualitative and/or quantitative methods; Deductive and Inductive

Source: Guba and Lincoln, 1994; Christie et al., 2000; Alvesson and Sköldberg, 2009; Greene and Hall, 2010; Johnson and Gray, 2010; Teddlie and Tashakkori, 2010; DeForge and Shaw, 2012

Table 3-2. Metaphysical Considerations of Paradigms of Enquiry

Paradigm Metaphysical Considerations	**19th century** ← **Positivism**	**Late 1960s** **Interpretivism & Social Constructionism**	**1970s** **Critical Realism**	**19thcentury/1950s** → **Pragmatism**
Ontology	**Naïve realism:** reality is 'real' and apprehensible	**Critical relativism:** multiple local and specific 'constructed' realities	**Critical realism:** reality is 'real' but only imperfectly apprehensible; focus on mechanisms	**Position of pluralism:** reality is complex and multiple
Epistemology	**Objectivist:** Findings true	**Subjectivist:** Findings created	**Modified objectivist:** Findings probably true with awareness of values	**Pragmatism:** Findings are constructed and resulting from empirical discovery
Axiology	Enquiry is value-free	Values are fundamental and enquiry is value-bound	Values may be controlled	Values are incorporated into enquiry

Source: Guba and Lincoln, 1994; Christie et al., 2000; Alvesson and Sköldberg, 2009; Greene and Hall, 2010; Johnson and Gray, 2010; Teddlie and Tashakkori, 2010; DeForge and Shaw, 2012

3.1.2 Research Paradigm of the Study

Despite the persistent controversies and debates about superiority, inferiority and popularity of various philosophical traditions in social sciences, Saunders et al. (2009) suggest that in general the thought of a correct versus an incorrect approach must be refused. Rather, it is the appropriateness in relation to the scope, aim and research objectives of the study, and the justification thereof, which lies at the core of the selection of a paradigm. With this premise in mind, this section first assesses paradigm choices in services marketing and tourism as the contexts of the study, before drawing attention to the scope of the research and presenting the rationale for adopting *pragmatism* as the most suitable research paradigm for this study.

3.1.2.1 Paradigm Considerations in the Services Marketing and Tourism Context

In the services marketing and management, and the tourism domain, as the overall contexts of the study, paradigm considerations were traditionally dominated by positivism, while interpretivist approaches have long time lagged behind in both adoption and popularity (Finn et al., 2000; Riley and Love, 2000; Holden and Lynch, 2004; Phillimore and Goodson, 2004; Hanson and Grimmer, 2007). Positivism has provided a philosophical lens useful in marketing research to test theories, the validity

of models as well as cause and effect in marketing (Carson et al., 2001). The reason for a reluctant adoption of qualitative approaches in tourism is that tourism is a domain, which, compared to other fields in social sciences, is less methodologically and theoretically advanced (Phillimore and Goodson, 2004).

In recent years, however, an increasing number of studies have advocated and applied interpretivist and social constructionist philosophies to services marketing and tourism research. For instance, Edvardsson et al. (2011) applied a social constructionist approach to understand service exchange and value co-creation, while Rihova et al. (2014) adopted a social constructionist perspective to conceptualise customer-to-customer co-creation in the context of festivals. At the same time, positivist-driven approaches continue to provide valuable philosophical underpinnings to investigate experience constructs and co-creation processes in tourism (Chen and Chen, 2010; Kim et al., 2011; Grissemann and Stokburger-Sauer, 2012).

In examining the long-standing methodological traditions and emerging developments in the context of this study, it becomes evident that a diversity of empirical approaches have been applied (Quan and Wang, 2004). While this has allowed researchers to choose from a wide spectrum of paradigms (Jennings et al., 2009), it has also given rise to confusion of the paradigms and approaches suitable to be applied for tourist experience research (Sharpley and Stone, 2010). With a missing consensus on suggested paradigms for the context of this study, the focus is next turned on the research aim and objectives. This is important to bridge the gap in understanding how the aim and objectives relate to the philosophical assumptions, and in turn, to the research paradigm.

3.1.2.2 Paradigm Choice for the Scope of the Study

This research seeks to develop an understanding of the *Technology Enhanced Tourist Experience.* Specifically, it has the overall aim to explore how the tourist experience can be enhanced by ICTs through consumer-company co-creation in the pre/during/post stages of the travel process. To address this aim, five research objectives (Chapter 1, section 1.4) have been set out to understand a) the granular elements of the tourist experience, b) the changing nature of the experience due to ICTs, the enhancement through ICTs to co-create experiences between the company and the consumer and c) the factors that create a *Technology Enhanced Tourist Experience*. This set of objectives holds several critical implications for the paradigm choice, as outlined below.

From an ontological and epistemological point of view, the scope of this research is to explore a new, complex phenomenon with the ultimate goal to generate theory and contribute to knowledge with an original, novel concept. Positivism, due to its reductionist perspective of assuming reality as observable, is considered as inapt as it fails to recognise deeper layers of reality (Alvesson and Sköldberg, 2009). Epistemologically, the positivist tradition is rather suitable for testing existing theories, for which primarily quantitative traditions and highly structured methods are adopted (Saunders et al., 2009), in particular to develop measurement scales and test models of experiences (Kim et al., 2011; Kim, 2014). A positivist philosophy would thus limit the scope of the study and place the researcher in too much distance of the tourist experience (Christie et al., 2000). Instead, a paradigm is needed that allows exploring the full complexity of the *Technology Enhanced Tourist Experience*.

Interpretivism is generally advocated as the ideal paradigm to address the shortcomings of positivism when exploring complex, social and value-laden phenomena (Goldkuhl, 2012; Holloway and Brown, 2012). This can be achieved by adopting qualitative methods, such as in-depth interviews, focus group interviews or participant observation (Sale et al., 2002). While a qualitative methodology is favoured over a quantitative one, multiple methods, rather than a single method, are needed to address the range of research objectives in this study. This however causes a paradigm incompatibility (Teddlie and Tashakkori, 2010), which would render the adoption of a pure paradigm, such as interpretivism, social constructionism or critical realism unsustainable.

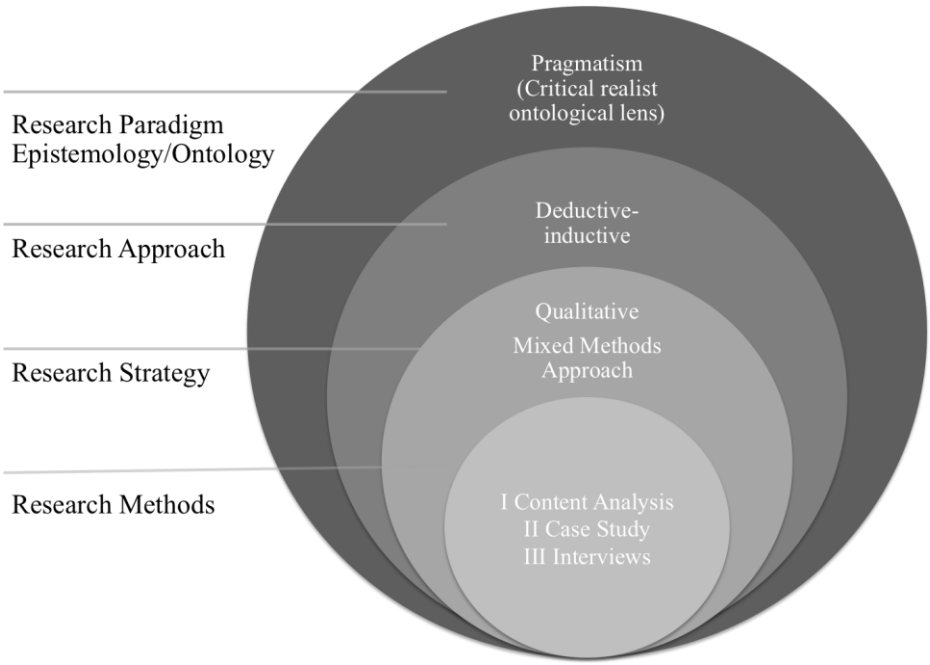
As a consequence, *pragmatism* is proposed as the underlying research paradigm for this research. The rationale for this choice is grounded in its ideal support for non-purist approaches and mixed methods enquiries, in which several methodologies are adopted in the frame of one study (Biesta, 2010; DeForge and Shaw, 2012; Goldkuhl, 2012). Rather than dealing with the incompatibility of mixed-methods research, pragmatism offers a unique perspective to a) focus on problem solving and outcomes (Johnson and Onwuegbuzie, 2004), b) allow for a sound epistemological justification of pragmatic values and a combination of methods to obtain the best answers to a particular research question (Johnson et al., 2007), while c) ensuring the epistemological and methodological flexibility needed (Greene and Hall, 2010).

Pragmatism has become well-established and accepted as a valuable paradigm in its own right (Morgan, 2007). In line with Greene and Hall (2010), the adoption of mixed methods and pragmatism should not occur without the necessary critical reflection. As pragmatism is not ontologically driven, in that it rejects the idea of belief systems and elements of the metaphysical framework (Morgan, 2007), it has ultimately been exposed to critique (DeForge and Shaw, 2012). This is because traditionally mixed methods pragmatists have lacked in discussion of their philosophical views (Lincoln, 2010). In this research, a critically reflective approach to pragmatism is adopted with the tenet to avoid a simplistic, uncritical and reductionist methodological justification of 'anything works' (Lipscomb, 2008), while valuing ontological and epistemological assumptions and discussions within pragmatism.

For this purpose, an ontological mid-ground was adopted by employing a critical realist lens to reflect the researcher's ontological view of the world. Critical realism particularly coincides with the worldview of this research, by recognising structures, processes and mechanisms (Alvesson and Sköldberg, 2009). In fact, this study explores how the traditional tourist experience (status quo), through the resource integration of ICTs (input), can be co-created and enhanced (mechanism) to achieve a *Technology Enhanced Tourist Experience* as a result (outcome). It is thus the combination of pragmatism with a critical realist ontological lens, which is particularly powerful to undertake a pragmatically guided mixed-methods study, while maintaining philosophical assumptions about how reality and the world are viewed.

To provide an overview of the overall research philosophy and its embedded considerations, Figure 3-1 has been developed. It depicts a 'research onion' that is divided into four main layers, which are covered in this chapter next. The outer layers represent the overarching research paradigm underpinning the study (section 3.1.2), while the inner layers specify the deductive-inductively informed research approach (section 3.2.1), with a qualitative mixed methods study as the research strategy (section 3.2.4) and the three employed methods (Content Analysis, Multiple Case Study, Semi-Structured In-Depth Interviews) (sections 3.4, 3.5 and 3.6) at the core of this study.

Figure 3-1. Overall Research Philosophy



Source: After from Saunders et al. 2009

3.2 *Research Strategy*

With the philosophical underpinnings defined in section 3.1, the next step is to clarify the research strategy, embedded enquiry logic, mixed methods strategy and the specific methods chosen. The section first explains the deductive-inductive theory development, which is followed by a discussion of the use of primary and secondary data. The third part presents the most common research approaches in the three literature streams (tourist experience, co-creation and ICTs) to determine the most suitable methods to address the research aim and objectives (Chapter 1, section 1.4). The fourth part of the section brings these insights together and introduces the qualitative mixed methods strategy and its suitability for the purpose of this study.

3.2.1 Research Approach and Theory Development

Teddlie and Tashakkori (2010) explain that mixed methods research is iterative, usually comprising both inductive and deductive logic. The former is characterised by developing theory from the data, whereas the latter allows for the testing of an existing theory (Saunders et al., 2009). This research explores the *Technology Enhanced Tourist Experience*, as a novel concept with the scope of developing a new theory, rather than testing an existing one. While most research is "*partly inductive and partly deductive*" by nature (Veal, 2006, p.36), a *deductive-inductive logic* was adopted. Research Phase 1

started with a content analysis, which served to *deductively* build the theoretical foundation of the granular elements of the tourist experience. This was followed by Research Phase 2 and Research Phase 3, in which a multiple case study and in-depth interviews were adopted as part of an *inductive* process to build knowledge about the *Technology Enhanced Tourist Experience*. Accordingly, the overall theory development occurred in a deductive-inductive manner, as summarised in Table 3-3.

Table 3-3. Theory Development Logic

Research Phase	***Purpose***	***Enquiry Logic***
Research Phase 1: Content Analysis	Systematic analysis of journal articles	Deductive
Research Phase 2: Multiple Case Study	Empirical exploration of company perspective	Inductive
Research Phase 3: In-Depth Interviews	Empirical exploration of consumer perspective	Inductive

Source: Author

3.2.2 Research Approach of Primary and Secondary Data

The mixed-methods study approach adopted combines secondary and primary data. The research starts with the analysis of secondary data through a qualitative content analysis of journal articles (Research Phase 1). Glass (1976) suggests that the analysis of secondary data is considered of great importance, in that it enables to develop an understanding of the research area and to gather valuable sources of ideas. Additionally, existing documentation can also offer points of comparison with new research and might allow uncovering unforeseen issues (Veal, 2006; Saunders et al., 2009). It is for these purposes that journal articles were assessed to capture the wealth of knowledge and identify the granular elements of the tourist experience.

This research phase was followed by the collection of primary empirical data by employing a multiple qualitative case study (Research Phase 2) and semi-structured in-depth interviews (Research Phase 3). Within the services marketing and tourism domains, primary research methods, such as observations, questionnaires and interviews (Saunders et al., 2009) often represent the only sources that allow gathering information from the market and getting insights into tourists' attitudes and behaviours (Veal, 2006; Ritchie and Hudson, 2009; Holloway and Brown, 2012). To explore how the tourist experience can be enhanced through ICTs, primary methods are thus needed to extract novel insights on the subject. Sections 3.4 to 3.6 outline the phases in detail.

3.2.3 Research Approaches in the Fields of the Study

Being able to select the most appropriate research strategy presupposes an understanding of earlier adopted research approaches in a specific field of study. However, in the tourism domain, the discussion of research methodologies and methods has not traditionally been a prioritised agenda (Small, 1999). In an attempt to counteract this tradition and reach an informed methodological decision, a thorough review of past research was undertaken. Accordingly, the three fields of study, tourist experience, co-creation and ICTs, were reviewed, which was important to a) identify specific methods that have been successfully employed in the past and b) select the methods that best suit the particularities of this study. Following, each field of study is reviewed and a table summarising the respective key approaches is presented at the end of each sub-section.

1 Tourist Experience

Tourist experiences are one of the methodologically most challenging subjects to explore due to their complex, dynamic and variant nature (Lee et al., 1994; Volo, 2009; Ryan, 2010). The wealth of studies in experience research have led to the adoption of a multiplicity of empirical approaches (Quan and Wang, 2004), all attempting to uncover diverse levels and elements of the concept (Andereck et al., 2006). Traditionally, tourist experiences have been explored through quantitative-driven methods, such as surveys and structured interviews, while qualitative approaches were undertaken by means of unstructured interviews, travel diaries and narratives, observation and participation, and memory work (Volo, 2009). As quantitative methods have only generated a limited understanding in experience research, scholars have increasingly advocated the importance of qualitative methods to reveal profound meanings and in-depth understandings of experiences (Andereck et al., 2006; Frochot and Batat, 2013).

Within the qualitative domain, a range of methods, such as in-depth interviews, focus group or observation techniques were successfully employed to study tourists and consumers (Frochot and Moscarola, 2012). For instance, Jackson et al. (1996) adopted the critical incident technique to explore positive and negative tourist experiences, Csikszentmihalyi and Hunter (2003) used the experience sampling method, while Gopalan and Narayan (2010) used in-depth interviews to determine what parts of the service delivery effects experiences. In an exploration of specific experience dimensions, Roberts and Sparks (2006) used a qualitative study to generate a model of

eight factors of wine tourism experiences and Tung and Ritchie (2011) adopted a grounded theory approach to uncover the dimensions of memorable experiences.

Table 3-4. Overview Methods: Tourist Experience

Author(s) Year	***Methodology/Method***	***Study Aim/Objective***	***Summary of Key Approaches***
Andereck et al. 2006; Sharpley and Stone, 2010	Different methodologies in experience research	To outline the diversity of experience research	Many different methodological approaches in experience research; Both, qualitative and quantitative methods have been adopted; Advocacy for qualitative approaches to reveal meaning, explore full complexity and develop in-depth understanding for tourist experience
Arnould and Price, 1993; Andersson and Mossberg, 2004; Nickerson et al., 2004; Carmichael, 2005; Cohen and Ben-Nun, 2008; Gopalan and Narayan, 2010; Huang and Hsu, 2010; Wang et al., 2012; Matteucci, 2013	Multiple/Mixed methods: - participant observation, focus group and pre/post-trip customer surveys; - participant observation; visitors survey and interviews with companies; - diary, open-ended mail-back survey and in-depth interviews; - photo elicitation, in-depth interviews and observation	To study the participants' experiences before, during and after the trip; to understand the tourism wine experience; meanings behind visitors' experiences; analysis of dining as a multidimensional experience; tourist experience of intangible heritage	
Cole and Scott, 2004; Corfu and Kastenholz, 2005; Pritchard and Havitz, 2006; Oh et al., 2007; Cohen and Ben-Nun, 2008; Chen and Chen, 2010; Kim et al., 2011	Quantitative methods, e.g. structured interviews or questionnaires (mostly as part of mixed methods)	To measure variables; to identify dimensions and develop multidimensional measurement scale for experiences; examine best and worst experiences	
Carmichael, 2005; Gopalan and Narayan, 2010	Interviews; interviews with organisation representatives	To identify drivers of experiences; to understand wine tourism experiences	
Jackson et al., 1996	Critical incident technique	To explore both positive and negative tourist experiences	
Csikszentmihalyi and Hunter, 2003; Andereck et al. 2006	Experience sampling method; experience-based approach;	To measure happiness at specific moments; to reveal feelings through diary or answers during tourist trips	
Noy, 2007; Tussyadiah and Fesenmaier, 2007; Prebensen and Foss, 2011	Autoethnography, autoetnographic diary, netnography	To gain deep understanding of experiences; to understand first-person stories	
Tung and Ritchie, 2011	Grounded theory approach	To explore underlying dimensions of memorable experiences	
Gray and Campbell, 2007; Kastenholz et al., 2012	Case study approach	To explore volunteer tourism experiences, rural tourism experiences from a stakeholder perspective	

Source: Author

The use of multiple and mixed methods has also been a popular choice in experience research. For instance, Arnould and Price (1993) used a combination of participant observation, focus groups and pre/post-trip customer surveys in three research stages, while Carmichael (2005) adopted participant observation, a visitor exit survey and personal interviews with organisation representatives. As the overview of experience research in Table 3-4 highlights, a broad range of methods have been adopted, while

recommendations for a common approach are lacking (Sharpley and Stone, 2010). What is evident is that qualitative methods have provided most valuable insights into the complexity of tourist experiences by revealing underlying dimensions and meanings (Ritchie and Hudson, 2009; Ritchie et al., 2011; Frochot and Batat, 2013).

2 Experience Co-Creation

Due to the novelty of experience co-creation as a concept in tourism, the majority of work has been of conceptual nature (Chathoth, 2007; Binkhorst and Den Dekker, 2009; Ek et al., 2008; Ramaswamy and Gouillart, 2008; Sfandla and Björk, 2013; Rihova et al., 2014). The conceptualisation and investigation of experience and value co-creation has gained rapid momentum in services marketing and in the emerging service science discipline (Baron and Harris, 2008; Edvardsson et al., 2011; Helkkula et al., 2012; Vargo and Akaka, 2012; Doan et al., 2013). It is however only a comparably limited number of studies that have applied and empirically investigated the co-creation concept in tourism research to date (Cabiddu et al., 2013; FitzPatrick et al., 2013; Prebensen et al., 2013; Schmidt-Rauch and Schwabe, 2013).

Among these studies, Shaw et al. (2011) adopted a qualitative survey to explore supplier perspectives of co-creation and Prebensen et al. (2013) used a survey to reveal the significance co-creation. Cabiddu et al. (2013) employed a case study approach to expand knowledge about value co-creation in tourism, while Rihova (2014) used an ethnographic approach to study customer-to-customer co-creation in the context of festivals. Table 3-5 highlights that several methods have been employed to foster the progress of co-creation research in tourism. The common tenet appears to suggest the usefulness of methods that place the tourist at the centre of co-creation, and as such, at the heart of the research enquiry (Binkhorst et al., 2010; Baron and Warnaby, 2011).

Table 3-5. Overview Methods: Experience Co-Creation

Author(s) Year	*Methodology/Method*	*Study Aim/Objective*	*Summary of Key Approaches*
Prahalad and Ramaswamy, 2004; Ek et al., 2008; Binkhorst et al., 2010; Chathoth et al., 2013; Sfandla and Björk, 2013	Conceptual work	To develop a theoretical understanding of co-creation	Most work in experience co-creation has been of conceptual nature while empirical investigation is still scarce but emerging;
Binkhorst et al., 2010; Rees, 2010; Kohler et al. 2011; Shaw et al. 2011; Prebensen et al., 2013	Bottom-up approaches; Shift to virtual methods Online surveys, surveys	To investigate the impact of technology-enabled services on value co-creation; introduce S-D Logic into tourism; explore user's co-creation experience influences	
Baron and Harris, 2010; Rihova, 2014	Ethnography, observation, interviews Interviews with consumers	To gain an understanding of consumer perspectives on experiences and explore C2C co-creation	Given the consumer-centricity in co-creation, consumer-oriented bottom-up qualitative approaches prevail to understand consumer perspective;
Gebauer et al., 2013	Mixed methods: - netnography, content analysis, online survey; - exploratory in-depth interviews; scale development	To understand positive and negative behaviour of co-creation in online communities; develop customer value co-creation behaviour scale	
Healy and McDonagh, 2012; Brodie et al. 2013; Gebauer et al., 2013	Netnographic grounded theory; netnography	To explore brand culture and value co-creation; to assess engagement within virtual brand communities	
Azevedo 2009	Experience narratives questionnaire	To design unique experiences, co-creation and the surprise factor	Co-creation has also been explored from company-perspectives, primarily through case study approaches
Baron and Harris, 2008; Sigala, 2012a; Cabiddu et al., 2013	Case study approach	To explore consumers as resource integrators; to understand co-created brand value; to explore customers' contributions on a social network; to assess virtual multi-stakeholder co-creation	

Source: Author

3 ICTs for Tourist Experience and Co-Creation

Recent technological advances have accelerated the possibilities for more innovative research approaches, providing opportunities for both qualitative and quantitative research (Binkhorst and Den Dekker, 2009; Gretzel and Jamal, 2009). The review of ICTs research into the tourist experience and co-creation within technology-enabled contexts indicates a tendency towards the use of ICTs-supported research instruments to study ICTs-related contexts. For instance, Internet surveys have been used to investigate the impact of technology-enabled services on value co-creation and the role of geo-based technology in experiences (Rees, 2010; Tussyadiah and Zach, 2011). Moreover, netnography, online travel stories, shared videos and social networks have been used to

understand technology-mediated experiences (Tussyadiah and Fesenmaier, 2007; Tussyadiah and Fesenmaier, 2009) and the value of sharing tourist experiences on social networking sites (Sigala, 2012a; Munar and Jacobsen, 2014; See-To and Ho, 2014).

A closer inspection of IT-related enquiries also suggests the usefulness of a case study methodology with qualitative methods (Connolly, 2005). For instance, McCabe et al. (2012) used a case study to investigate stakeholder perspectives in technology enhanced tourism services, while Sigala (2012a) adopted an exploratory case study methodology to analyse customer interactions and contributions in a social networking initiative. Table 3-6 summarises the methods reviewed and highlights two main approaches to ICTs research. These are the adoption of technology-supported methods and those methods (e.g. case study) that allow studying technology-related phenomena in their full complexity. The qualitative mixed methods strategy, with the specific methods adopted.

Table 3-6. Overview Methods: ICTs and Experiences

Author(s) Year	***Methodology/Method***	***Study Aim/Objective***	***Summary of Key Approaches***
Gretzel and Jamal, 2009; Binkhorst et al., 2010	Innovative means in qualitative and quantitative study; technology for data collection	To highlight the role of ICTs in tourist experiences, implementation in data collection	The field of ICTs is characterised by the adoption of innovative technology-supported methods; Latest work has used the online medium for data collection on tourist experiences and technology-mediated tourist experiences; While quantitative surveys still come into use, novel qualitative methods, such as netnography and online video content analysis come into use
Benckendorff et al., 2005; Pallud, 2009	Self-administered questionnaire	To explore perceptions of ICTs use in regional tourist attractions; to assess ICTs in enhancing museum experiences	
Corfu and Kastenholz, 2005; Rees, 2010; Fotis et al., 2011; Tussyadiah and Zach, 2011	Online surveys; Internet survey; structured questionnaire supply/demand side	To study geo-based ICTs in experiences; to assess the impact of technology-enabled services on co-creation; to explore the role of the Internet in tourist experiences	
Baron and Warnaby, 2011; Wang et al., 2012	Qualitative content analysis; qualitative analysis	To assess smartphones in mediating touristic experiences; to explore customers' use and integration of resources	
Tussyadiah and Fesenmaier, 2007; Tussyadiah and Fesenmaier, 2009; Matloka and Buhalis, 2010	Netnography and online travel stories; Analysis of online shared videos, online web analysis	To assess ICTs-mediated tourist experiences, user generated content of destinations	
McCabe et al., 2012; Sigala, 2012a	Case study approach	To assess stakeholders in technology enhanced tourism services; to assess customer contributions in social networks; to explore stakeholder co-creation in virtual spaces	

Source: Author

3.2.4 Qualitative Mixed Methods Strategy

This section presents the qualitative mixed methods strategy adopted. First, it outlines the rationale for a qualitative approach, before explaining the value of using a qualitative mixed methods strategy in this study. Second, it sets out a graphical overview of the overall research process and provides a transparent, tabular outline of the data collection plan, before going into the detailed explanation of each method in sections 3.3 to 3.6.

3.2.4.1 Rationale for the Qualitative Research Approach

The review of methodological approaches in the three fields of the study (*tourist experience, co-creation* and *ICTs*) in section 3.2.3 has led to adopting a qualitative approach for this research. While historically there has been an emphasis on quantitative approaches in tourism studies, qualitative research has become widely accepted and valued in the past decade (Phillimore and Goodson, 2004). In fact, Riley and Love (2000) proclaim that despite the reluctant adoption of qualitative studies, some of the most ground-breaking advances in tourism research have been achieved through the adoption of loose qualitative methodologies. This is largely because of the nature of the qualitative enquiry, which fosters exploratory approaches that uncover novel themes (Patton, 2002) and allow for new knowledge to arise (Frochot and Batat, 2013). Therefore, a qualitative approach under a pragmatist philosophical lens (section 3.1.2.2) was adopted to explore the *Technology Enhanced Tourist Experience* for the first time. This allows for an in-depth understanding and new theoretical contributions of the concept. The rationale for the qualitative mixed methods strategy is explained next.

3.2.4.2 Rationale for the Qualitative Mixed Methods Strategy

This study adopts a qualitative mixed methods strategy. The rationale for this choice is primarily based on the review of previous research and the particular research objectives of this study. Since qualitative mixed method research is rather novel in both theory and application, it merits a detailed specification of what, and importantly what not, it represents. In general, mixed methods research (MMR) constitutes a commonly used strategy within social research methods (Bryman, 2008) and has become increasingly advocated (Creswell, 2003; Tashakkori and Teddlie, 2003; Creswell and Plano Clark, 2007) and adopted in experience research (Arnould and Price, 1993; Oh et al., 2007). As such, mixed methods have evolved into a third main research approach, together with quantitative and qualitative methods (Johnson et al., 2007).

This is because mixed methods are generally used when a single method would not lead to a comprehensive understanding of a specific phenomenon (Morse and Chung, 2003). Accordingly, mixed methods have evolved into a suitable alternative for studies that have multiple objectives (Teddlie and Tashakkori, 2010). Accordingly, researchers can apply several methods in a versatile manner and exploit the available 'methodological toolbox' (Morse and Chung, 2003). Despite their inherent practical benefits, mixed methods have however also been exposed to critique in the field. One commonly recurring argument is the unsuitability of mixing qualitative and quantitative methods (Bryman, 2008), due to the substantial differences in their philosophical underpinnings (Teddlie and Tashakkori, 2010).

Whilst its criticism is rooted in paradigm incompatibility, there has been advocacy for blending different methods, and thus paradigms, within one study. The main goal of mixing methods thereby is not to eradicate the weaknesses of one method or another by combining them. Rather, it is about the researcher being a connoisseur of the array of methods available and knowledgeably choosing the methods that address the purpose of a study best (Teddlie and Tashakkori, 2012). This argument is reinforced by Nudzor (2009, p.119) who proclaims that

> "*the researcher in order to answer complex research questions must make use of all the tools and methods at his or her disposal, thus an interplay of methods as opposed to a compromise*".

Commonly, mixed methods research is defined as a combination of qualitative and quantitative methods (Johnson and Onwuegbuzie, 2004; Teddlie and Tashakkori, 2010). In advancing these conventional boundaries, Morse (2010a) however suggests that this definition is by no means restricted to the combination of both lines of enquiry. Instead, MMR needs to be more broadly understood as any research that includes "*different types of data, approaches to analysis, or research conducted on two different populations or groups, whether it is qualitative or quantitative*" (Morse, 2010a, p. 340).

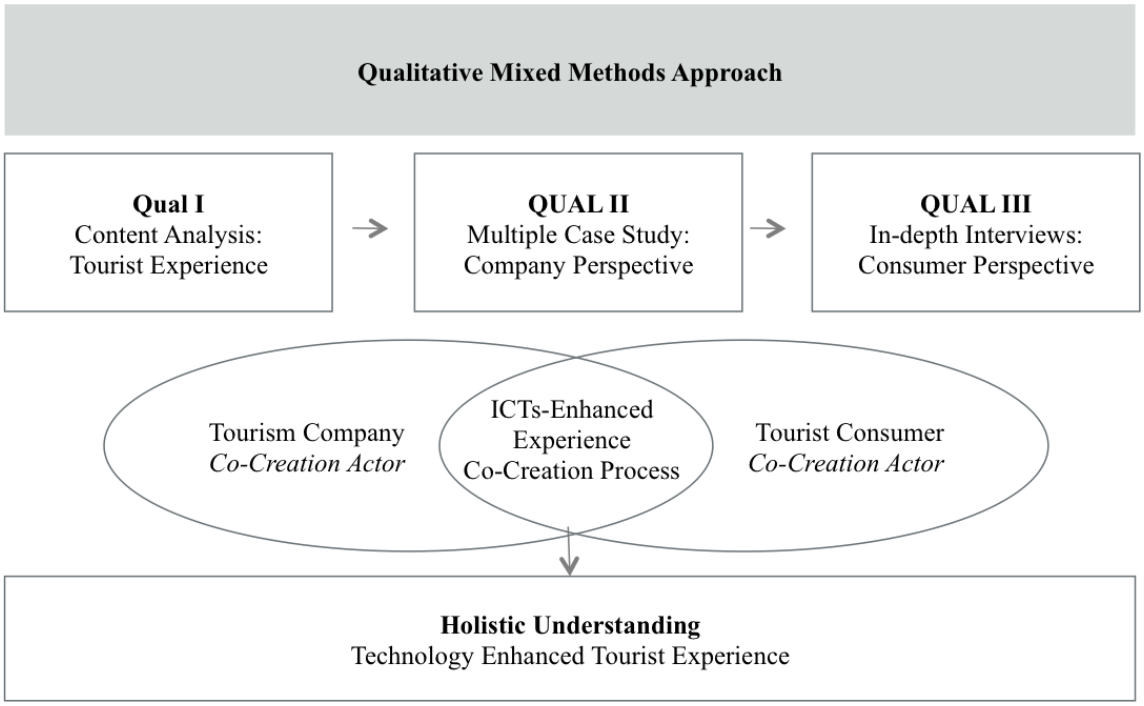
In establishing qualitative mixed methods approach, Morse (2010b) claims that mixing qualitative methods must not be confused with traditional responsive and flexible qualitative study designs, such as ethnography, grounded theory and phenomenology. Rather, a qualitative mixed methods design is distinct, in requiring different types of data and procedures of analysis to address different complementary components within one study. Due to the novelty and limited application of this methodology, Morse

(2010a) draws a clear line between the terms *mixed methods* and *multiple methods*. While multi-methods use two or more methods to answer different sub-questions, whereby each project is complete on its own, mixed methods provide a supplemental strategy in which single components are not complete, but all elements are needed to form an entire study (Morse, 2010a). Accordingly, it is an appropriate strategy when a) methods are different enough to be handled separately, b) cannot be associated to one single methodology and c) methods supplement each other to holistically understand a subject (Morse, 2010b).

An overall *qualitative mixed methods strategy* was therefore chosen, to adopt the necessary qualitative methods to address the five objectives and develop a holistic understanding of the *Technology Enhanced Tourist Experience*. In doing so, a novel methodology was employed, which according to Morse (2010b) contributes to the broader understanding of the qualitative enquiry. Most MMR adopts "*relatively unimaginative combinations of QUAL and QUAN methods*" (Teddlie and Tashakkori, 2012, p.778). This research is distinct in that it puts a blend of qualitative methods into practice, and by doing so, addresses a methodological shortcoming and contributes to contemporary mixed methods research.

A sequential three-phase design was employed, including an initial Qual component, followed by two principal empirical QUAL components, which are demonstrated in Figure 3-2. The research has started with Qual I phase, by using *secondary research* through a content analysis to identify the granular elements of the tourist experience. Building upon this understanding, two main phases of *primary data* collection followed. QUAL II consisted of a multiple case study methodology to understand the *company perspective* of how the tourist experience can be co-created and enhanced by ICTs, while in QUAL III semi-structured in-depth interviews were adopted to understand the *consumer perspective* of the same. Only the combination of these three qualitative methods did allow for the achievement of the research objectives and the triangulation and crystallisation of the findings (Tobin and Begley, 2004). The need for a comprehensive methodological approach exploring a *two-fold* company-consumer perspective was underpinned by the theoretical rationale discussed next.

Figure 3-2. Qualitative Mixed Methods Approach



Source: Author

The tourist experience can be described as the specific moment "*when tourism consumption and tourism production meet*" (Andersson, 2007, p.46), in which various resource-integrating actors, including tourists, companies and stakeholders meet to co-create experiences together (Kastenholz et al., 2012; Wieland et al., 2012). Traditional experience economy discourses mainly emphasised supply over demand (Ek et al., 2008), leading to studies focusing on service and experience design, creation and delivery (e.g. Pine and Gilmore, 1999; Poulsson and Kale, 2004; Oh et al., 2007; Zehrer, 2009). In an attempt to address the dearth of customer perspectives in experience research, scholarship has promoted more user-oriented approaches for a profound understanding of experiences (Ek et al., 2008; Gupta and Vajic, 2000).

Especially recent work within the S-D logic and the services marketing domain clearly underpins the value of consumer-focussed enquires of research (Heinonen et al., 2013; Rihova et al., 2014). This is manifested in latest research investigating consumer roles and involvement, customers' resource integration processes, customer-to-customer co-creation practices, and most recently, service eco(systems) and actor-to-actor orientation (Sigala, 2010; Healy and McDonagh, 2012; Vargo and Akaka, 2012; Brodie et al., 2013; Frochot and Batat, 2013; Rihova et al., 2014). It is through a S-D logic lens that

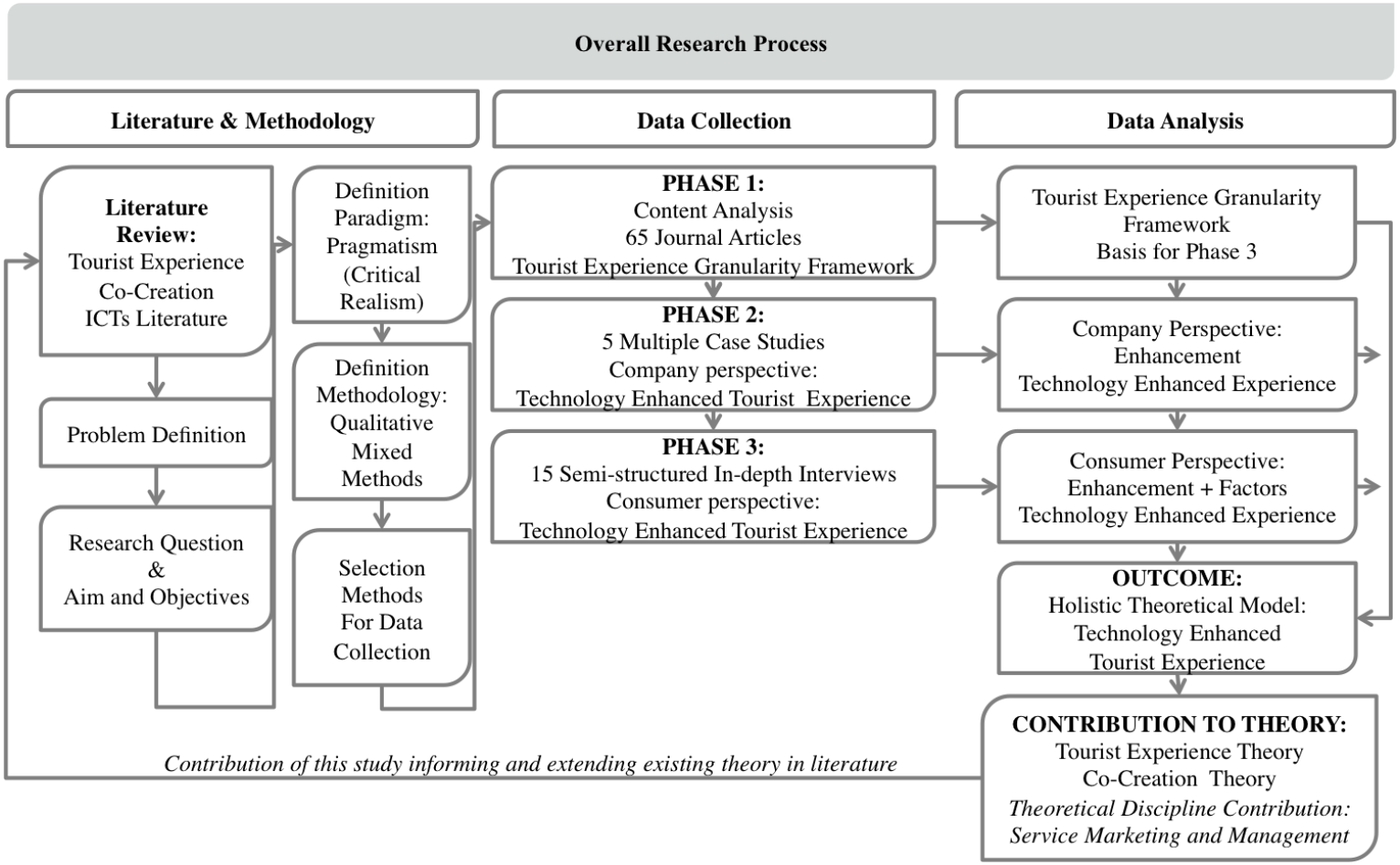
emerging perspectives of multiple resource-integrating actors are recognised (Wieland et al., 2012; Lusch and Vargo, 2014).

In this vein, this study adopts a *two-fold company-consumer actor perspective* to explore the *Technology Enhanced Tourist Experience* by uncovering the *tourism company* (QUAL II) and *tourist consumer* (QUAL III) as the main actors in the experience co-creation process. QUAL II phase aimed to develop a practical company-centric understanding of how experiences are enhanced through ICTs. While overall it represents only a minor proportion of the findings, it played an essential role for the researcher to develop a theoretical foundation and solid understanding of 'what is possible' in terms of the *Technology Enhanced Tourist Experience* in practice, before going on to explore the consumer side of experiences in-depth.

3.2.4.3 Research Process of the Qualitative Mixed Methods Study

To conclude the qualitative mixed methods strategy, a graphical overview of the overall research process is presented in Figure 3-3 below. It demonstrates the entire process of this study, from the literature review to methodology, data collection and data analysis towards the final contribution to theory, which informs the existing literature through a feedback loop. Second, a detailed tabular outline of the data collection plan (Table 3-7) is provided. The data collection plan interlinks the aim and objectives (Chapter 1.4) with the corresponding research phase (sections 3.3 to 3.6). In specific, it presents the adopted methods and gives a practical understanding of '*with whom'*, '*where'* and '*how'* the research was undertaken. The subsequent sections introduce, discuss and provide the rationale for each method in the three-phase qualitative mixed methods strategy. A detailed schedule of all three research phases is also included in Appendix 1.

Figure 3-3. Overall Research Process of the Study



Source: Author

Table 3-7. Data Collection Plan

Aim & Objectives	*Phase*	*Method*	*Why*	*With Whom*	*When/Where*	*How*
Status Quo and Change Perspective						
RO 1: To explore the changing nature of the tourist experience and the experience co-creation process	**Lit. Review**	**Lit. Review**	**Needed for:** Theoretical basis of the study, basis for research gaps and conceptualisation	-	**When:** Oct. 11- Mar. 12	Reading tourist experience, experience co-creation, ICTs literature
RO 2: To identify the granular elements of the tourist experience	**Qual I**	**Qual. Content Analysis**	**Needed for:** Systematic identification process of granular elements. **In order:** To gain holistic understanding	**Who/number:** 65 Journal articles **Sampling:** Keyword tourist experience in title	**When:** Apr.-Oct. 12	Systematic content analysis of journal articles
Company Perspective						
RO 3: To explore the role of ICTs in enhancing the tourist experience and the experience co-creation process from a two-fold company-consumer perspective	**QUAL II**	**Multiple Case Study**	**Needed:** To explore companies to gather multiple sources of evidence of a phenomenon. **In order:** To gain practical understanding from company how ICTs are used to enhance experiences and co-creation	**Who/number:** 5 Company case studies, tourism, hospitality, destination sectors; **Sampling:** Purposive: Best-practice cases in tourism	**When:** Apr.-May 12 **Where:** UK	**Observation:** Online company presence; **Interviews:** Interviews with GMs/CEOs/managers **Documentary information:** Reports, slides, notes
Consumer Perspective						
RO 3: To explore the role of ICTs in enhancing the tourist experience and the experience co-creation process from a two-fold company-consumer perspective; RO 4: To identify the factors that constitute a Technology Enhanced Tourist Experience	**QUAL III**	**Semi-Structured In-depth Interviews**	**Needed:** To elicit experiences from consumers, semi-structure to evaluate enhancement of specific granular elements. **In order:** To gain understanding from consumers how ICTs enhance experience co-creation and what are factors	**Who/number:** 15 Semi-structured in-depth interviews with consumers **Sampling:** Purposive sampling; set of pre-defined criteria	**When:** Apr.-May 13 **Where:** UK	**Semi-structured interviews:** Consumers – interview guideline defined key questions to be covered including list of granular elements
Holistic Understanding						
RO 5: To develop a holistic theoretical model of the Technology Enhanced Tourist Experience	**Data Integration**	**Data Analysis**	**Needed for:** Integration of data from three research phases **In order:** To enable a holistic understanding	-	**When:** June-Dec. 13	**Development model:** Technology Enhanced Tourist Experience

Source: Author

3.3 *Pre-Research Phase: Literature Review*

As first part of the study, a comprehensive literature review was conducted. This was critical to develop the foundation of the three fields of study (tourist experience, experience co-creation and ICTs). More specifically, the literature review had the aim to a) identify the existing theoretical frameworks in these areas, b) appraise current discourses and emerging perspectives, c) identify prevalent gaps in knowledge, d) formulate the research questions and objectives, to lastly e) develop the conceptual framework that guides this study (section 2.5). By doing so, the literature review had the purpose to capture current changes and paradigm shifts in the three theoretical fields to address *Research Objective 1*.

Research Objective 1

To explore the changing nature of the tourist experience and the experience co-creation process in terms of the implementation of ICTs in the pre/during/post phases of the travel process

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The literature review not only shed light on the complexity, but also the fragmented nature of the theoretical framework of the tourist experience. This resulted in the need for a more systematic approach to capture the full comprehensiveness, while identifying and distilling the single elements that create a tourist experience. For this purpose, Research Phase 1 was proposed, namely a systematic content analysis of journal articles to identify the '*granular elements'* of the tourist experience. Thereby, a clear distinction is drawn between the literature review and the qualitative content analysis based on secondary research. While the former had the purpose to assess the existing literature and develop the conceptual framework, the latter had the goal to systematically scan selected content for a specific purpose. In line with Riffe et al. (2005), the literature review served as a basis to build the codebook that subsequently informed the data collection through the content analysis, which is explained in detail next.

3.4 *Phase 1: Qualitative Content Analysis*

This section outlines Research Phase 1, the qualitative content analysis. It first presents the need to identify the granular elements of the tourist experience, before highlighting the rationale for the chosen method, the research design and data collection and lastly,

the data analysis process. Drawing upon the theoretical developments of the tourist experience over the past five decades, it appears that one central question remains puzzling, which is: "*What are the elements that constitute the tourist experience?"* This question has been central to research avenues, which have examined the concept from numerous disciplines. Social science approaches have primarily tackled motivations, activities, interests, authenticity and subjective experiences, while consumer behaviour studies mainly explored typologies of activities, expectations, past experiences, knowledge, quality, satisfaction and interactions (Volo, 2009). Much of the work has thereby focused on particular aspects of the tourist experience, while the integration of this wide knowledge has remained scarce. Rare exceptions are Ritchie and Hudson (2009), who provide an overview of tourist experience research and Cutler and Carmichael (2010), who offer a summary of the dimensions of the tourist experience.

What remains however unaddressed is a study that, through the adoption of a systematic methodology, examines the tourist experience holistically, while identifying what factors constitute the tourist experience at its most *granular level*. The term granularity is used to describe the 'finest', 'most-detailed', 'distilled' and 'decomposed level', the 'essence' of the tourist experience. The notion of granularity per se is not new, but has been applied in several fields, in which the granular knowledge of matter plays a critical role. These include physics, molecular dynamics and computer sciences (Liang, 2011).

To introduce the concept to social sciences, and more specifically to the services marketing domain, granularity can perhaps be best understood as a 'scale of zoom' from a macro to a micro-level (Liang, 2011), with the finest-grained dimension imposing the highest level of granularity (Hertzum, 2008). While a coarse granular level, meaning larger unit sizes, is easier to achieve, the benefits of fine granular levels, implying smaller unit sizes, are argued to be considerably higher (Karlsen et al., 2012). Accordingly, the aim of the qualitative content analysis was to a) distil the most *granular elements* of the tourist experience and b) subsequently combine these for a holistic understanding in the *Tourist Experience Granularity Framework*.

3.4.1 Rationale Phase 1: Qualitative Content Analysis

Content analysis (CA) represents a method of social and communication sciences for the systematic study of communication and information (Bell, 1997; Prasad, 2008). Content determines what is contained, meaning that a content analysis is the analysis of

what a message includes. Content analysis has been used as one of the most frequent approaches to understand theoretical content of different disciplines (Prasad, 2008), such as analysing content of journal articles (Loy, 1979). The main advantages of CA, despite being a labour-intense methodology, are its unobtrusiveness and the possibility to deal with large volumes of data, while costs are limited. Depending on the purpose, different sources of communication, including print media, television, radio broadcast, symbols or the Internet can be studied (Prasad, 2008). The wealth of secondary data, including books and journal articles provide great sources of information, as certain questions can be addressed with secondary sources, where no primary data are needed (Ghauri and Gronhaug, 2005).

A systematic content analysis is a theory-driven approach, based upon the knowledge of a subject (Mayring, 2007), which is ideal when the goal is to assess existing research (Spens and Kovács, 2006). It has also been adopted as a frequent method in tourism research, such as to perform systematic literature reviews to understand the theoretical progress of ICTs in tourism or to capture the emergence of social media in tourism and hospitality (Buhalis and Law, 2008; Leung et al., 2013). Therefore, content analysis was chosen as a suitable method for this study to systematically analyse secondary data to examine key notions and themes (Cullinane and Toy, 2000) of the tourist experience.

Specifically, the goal was to identify the granular elements of the tourist experience and thereby address *Research Objective 2*. To ensure an objective and replicable inference about the content studied, the notions of objectivity, quantification, context and validity were taken into consideration. Three basic principles were followed by maintaining a) objectivity through a defined set of explicit rules for different researchers to achieve the same results, b) a systematic process through rules for exclusion and inclusion of content and c) generalisability of applying the results to similar situations (Prasad, 2008). Next the research design is outlined in detail.

Research Objective 2

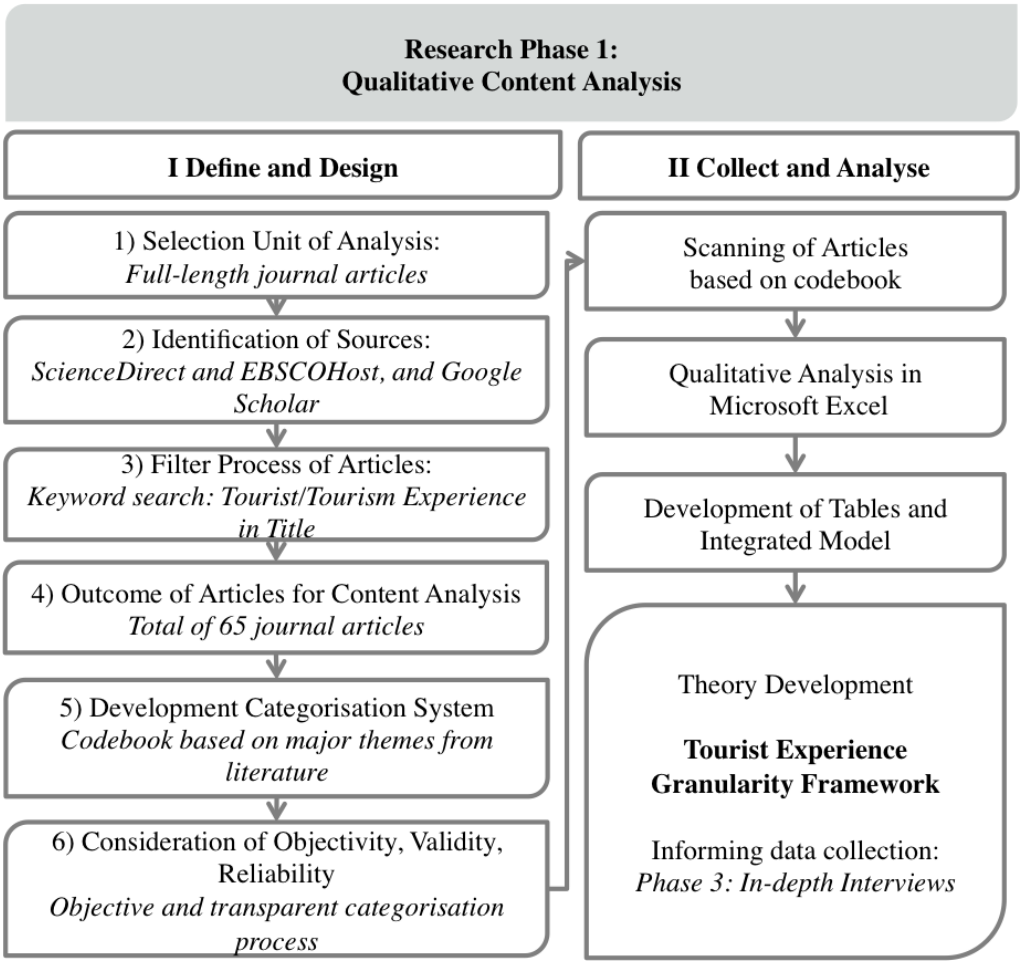
To identify the granular elements of the tourist experience

3.4.2 Research Design: Qualitative Content Analysis

Content analysis follows a multiple-step procedure starting with a research question, selecting the unit of analysis and analysing the collected data (Prasad, 2008). In this

research, a number of steps were followed, including selecting the unit of analysis, identifying the source, filtering the identified sources, developing a categorisation system through a codebook and conducting the collection and analysis of the content for theory development. The research design is depicted in Figure 3-4 and discussed step-by-step below.

Figure 3-4. Research Design: Qualitative Content Analysis



Source: Author

1) Selection of the Unit of Analysis. While content analysis is commonly performed on small units, such as paragraphs or single words, it can also be conducted on books, media and larger texts. For this research, full-length journal articles were identified as the suitable unit of analysis to extract the granular elements of the tourist experience.

2) Identification of Sources. The next step was to identify relevant journal articles, discussing the subject of the tourist experience. Given that the selection of articles is primarily determined by accessibility, availability and relevance (Cullinane and Toy, 2000), journal articles were drawn from three major online article databases. These included ScienceDirect, EBSCOHost and Google Scholar, which can be considered as

the most popular research databases and were successfully used for previous content analyses (Buhalis and Law, 2008; Law et al., 2009; Leung et al., 2013).

3) Filter Process of Articles. To filter the articles in terms of relevance, a key word search was used to select articles with the terms *tourism experience* and *tourist experience* to account for both prevalent terms in the literature. All articles with the terms tourism/tourist experience in the title were selected and thoroughly read by the researcher to determine whether the central theme of the article pertained to the tourist experience. In line with recent studies content analysing journal articles (e.g. Buhalis and Law, 2008; Leung and Law, 2010; Liu et al., 2011; Leung et al., 2013), this study only included full-length articles published in refereed academic journals, while conference articles, book reviews, editorial notes and reports were excluded.

4) Outcome of Articles for the Content Analysis. Following a rigid selection process, a total of 65 journal articles met the pre-defined inclusion criteria and were used for further analysis. A full list of the journal articles can be found in Appendix 3.

5) Development Categorisation System. Having selected the source of content, the next step was to develop a categorisation system (Riffe et al., 2005) to allow for a thorough content analysis based on pre-defined categories (Mayring, 2007). The Literature Review, as outlined in section 3.3, served as the basis to identify the major elements of the tourist experience and to develop a codebook (Riffe et al., 2005). Following the principles of a deductive content analysis (Kuckartz, 2010), the codebook guided which content was selected and examined (Bell, 1997).

6) Consideration of Objectivity, Validity, Reliability. Taking into account the potential subjectivity of the coding (Guthrie et al., 2004), it was critical to ensure objectivity, validity and reliability through a transparent categorisation process (Spens and Kovács, 2006). For the validity and reliability of the coding instrument, categories were developed based on the literature review and adjusted in a deductive-inductive manner to expand and refine categories in the course of the analysis in order to lead to the final codebook presented in Table 3.8 below.

Table 3-8. Codebook of the Qualitative Content Analysis

Overall Category	*Variables*	*Sub-Variables*
1. Pre Experience Phase	1.1. External influencing the individual	
	1.2. Internal influences within individual	
	1.3. Other influences	
2. During Experience Phase	2.1. Influences experience space	2.1.1. Physical aspects 2.1.2. Social aspects 2.1.3. Product and service attributes
	2.2. Dimensions of the experience	2.2.1. Criteria creating an experience 2.2.2. Experience contents 2.2.3. Experience qualities and attributes 2.2.4. Experience dimensions 2.2.5. Experience outcomes
3. Post Experience Phase	3.1. Evaluation of the experience	
	3.2. Experience outcomes within the individual	
	3.3. Value outcome	

Source: Author

3.4.3 Data Collection and Analysis: Qualitative Content Analysis

Phase 1 Content Analysis was conducted between April 2012 and October 2012. The data collection process started with a keyword search of 216 journal articles, which were initially identified and scanned, as shown in Table 3-9. This process had the purpose to identify suitable articles, while eliminating a) non-peer reviewed articles, b) articles with generic experience focus and c) articles with some tourist experience focus, which however did not use the terminology in the title. A total of 65 suitable articles were included for further review and analysis.

The journal articles were analysed to the full extent, which means that all relevant content and cited work was integrated to ensure that seminal studies on the subject are recognised in the analysis. Data saturation became gradually evident after the 50th article, which manifested itself through the repetition of prominent concepts and cited work. The analysis of all 65 identified articles was performed for completeness. Based on the pre-defined codebook, the identified journal articles were manually read by the researcher and relevant content was coded to each category.

The content analysis was performed by using the analysis tool Microsoft Excel, which allowed for a systematic collection of the data, structured display and filtering options to sort the content in the analysis. In this process, the extracted data were analysed in

order of each category to allow for a systematic knowledge and theory development. To complement the relevance of the qualitative findings, counting was employed, as frequency is a common indicator of the significance of a subject (Guthrie et al., 2004). The outcome of this research phase, the granular elements of the tourist experience, are presented in Findings Chapter 6.1.

Table 3-9. Data Collection Granularity of the Tourist Experience

Type of Article	***Selection Focus***	***Nr. of Articles***
Conference and non-peer reviewed articles	Keywords tourist/tourism experience in title, but not peer-reviewed journal articles	20
Peer reviewed journal articles	Focus on generic experiences, not context of tourism experience	86
Peer reviewed journal articles	Keywords tourist/tourism experience in body (not title)	20
Peer reviewed journal articles	Keywords tourist/tourism experience in abstract (not title)	23
Peer reviewed journal articles	Keywords tourist/tourism experience in title (main focus not on tourist experience, e.g. focus methodology)	2
Peer reviewed journal articles	Keywords tourist/tourism experience in title	65
Total Papers Identified and Scanned		**216**
Total Papers Reviewed and Analysed		**65**

Source: Author

3.5 *Phase 2: Multiple Case Study*

This section presents Research Phase 2, the multiple case study approach, which aimed to explore the company-perspective of RO3, to understand how ICTs can enhance the tourist experience and experience co-creation process. First, the rationale for the chosen method is presented, before outlining the research design and the data collection and analysis process.

3.5.1 Rationale Phase 2: Multiple Case Study

The empirical enquiry of a case study is a method to "*explore a contemporary phenomenon within its real-life context*" (Yin, 2003b, p.13). While research strategies, such as experiments separate the phenomenon from its context, and surveys have a limited ability to explore phenomena, case studies represent a unique research strategy. They allow to a) understand a phenomenon embedded within its natural context, while b) investigating multiple variables of interest and c) drawing from multiple sources of evidence (Yin, 2003b). Moreover, case studies constitute a powerful method when a

subject is under-researched or characterised by a lack of theory (Eisenhardt, 1989; Yin, 2003b; Yin, 2003a). Given these benefits, case studies have become a widely advocated and adopted approach in tourism research (e.g. Andereck et al., 2006; Gray and Campbell, 2007; Sundbo and Hagedorn-Rasmussen, 2008). For instance, Sundbo and Hagedorn-Rasmussen (2008) used case studies to create new concepts and models of experience marketing, while McCabe et al. (2012) recently employed a case study to investigate stakeholder perspectives in technology enhanced tourism services.

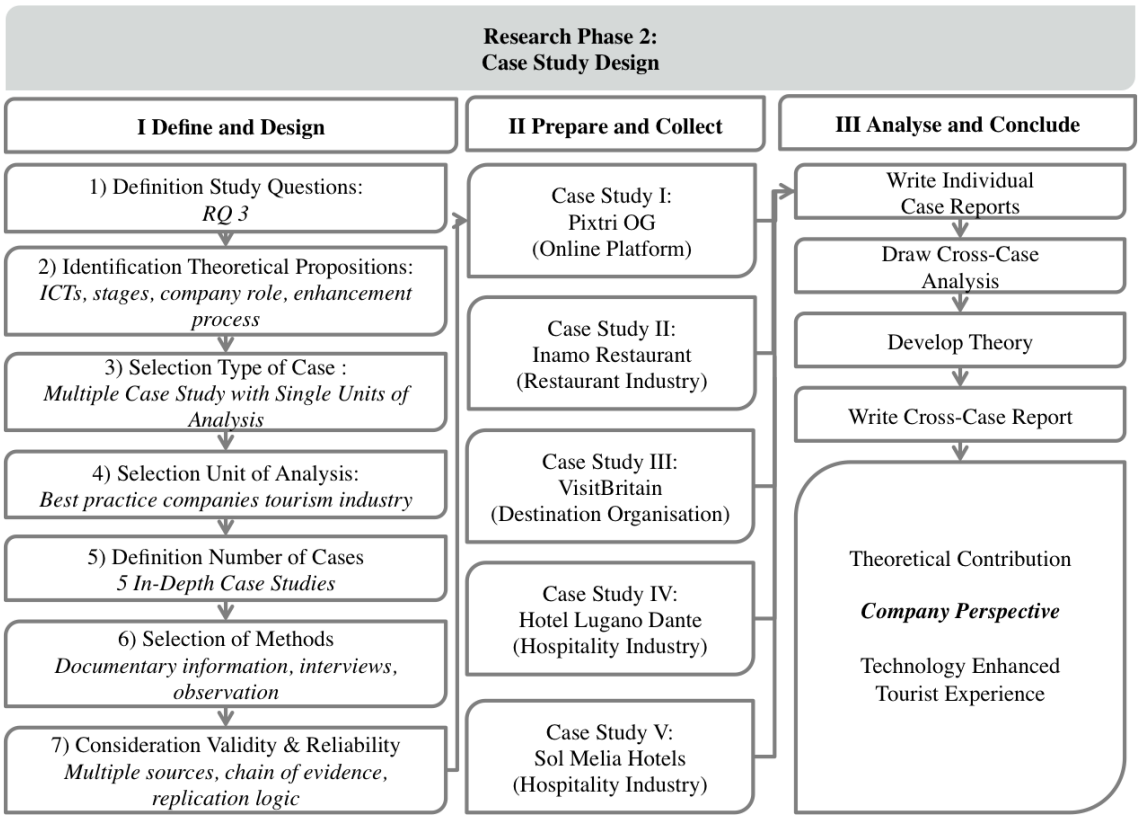
In addition to its appropriateness in tourism and experience research, the rationale for using case studies lies in its suitability as an ideal methodology in the field of information systems and technology (Pare, 2001). Of particular interest is that case studies permit insights into organisations using ICTs, particularly when technology is dynamic, changing or being newly implemented (Pare, 2001). Darke et al. (1998) suggest that case study research is particularly powerful when the goal is to understand 'how and why processes or phenomena occur' and when a phenomenon is new, little explored and terminology is not yet clearly defined. Its adequacy for investigating technology has consequently rendered case studies the most commonly used qualitative method in information systems research (Orlikowski and Baroudi, 1991). In fact, there are a great number of studies within this field, which have successfully applied case studies in the past (Walsham, 1995; Darke et al., 1998; Pare, 2001).

In summary, its suitability for both experience and ICTs research provides the rationale to adopt a case study methodology for Research Phase 2. Most importantly, the case study approach allowed to a) draw from multiple sources of evidence, b) examine a new, dynamic and technology-related phenomenon that remains embedded in its context, to c) develop a company-centric understanding of how tourist experiences can be enhanced by ICTs. While from a theoretical standpoint, this phase played a less dominant role than Research Phase QUAL III (consumer in-depth interviews), it provided a crucial basis to understand how, and to what extent, tourist experience co-creation and enhancement through ICTs are possible and realised in practice. As such, it created the foundation for the subsequent consumer-perspective and complemented the understanding of experience co-creation from a two-fold actor perspective.

3.5.2 Research Design: Multiple Case Study

The key to a well-developed case study design is the logical plan guiding the study. Such a plan includes the study question, the theoretical propositions, the unit of analysis, the logic linkage of data to the propositions and the criteria for interpretation of the findings (Yin, 2003b). For this purpose, a detailed plan was developed that guided the case study research, as shown in Figure 3-5 and explained in subsequence.

Figure 3-5. Research Design: Multiple Case Study



Source: Author

1) Definition of the Underlying Study Question

Case study research is considered particularly useful in producing answers to questions of "how" and "why" (Yin, 2003b). As such, it was used to address *Research Question 3* from a company perspective.

Research Question 3

How can the tourist experience and experience co-creation be enhanced through ICTs from a company and consumer perspective?

---

2) Identification of the Theoretical Propositions

Compared to methodologies that generate theory without prior assumptions, such as grounded theory or ethnography, theory development prior to data collection is integral to case study research, independent of whether the final goal is to develop or test a theory (Yin, 2003b). In this study, the conceptual framework (Chapter 2.5) provided the foundation for the theoretical propositions that underpin the data collection process, summarised in Table 3-10.

Table 3-10. Theoretical Proposition of the Multiple Case Study

Factor	***Data Collection***
ICTs as a Resource	Exploration of what types of ICTs are used and how these are used to enhance the tourist experience and the experience co-creation process
ICTs in the Travel Process	Exploration of what stages of the travel process are enhanced through ICTs
Company as Experience Co-Creation Actor	Exploration of the role of the company as a resource facilitator and actor in the tourist experience and co-creation process
Experience Co-Creation Process	Exploration of how ICTs enhance the tourist experience and the experience co-creation process
Experience Co-Creation Outcomes	Exploration of the outcome of a technology enhanced experience co-creation process

Source: Author

3) Selection of the Type of Case Study

A case study can take four main structures, which are categorised as a single case or multiple cases with either a single holistic or multiple embedded designs (Yin, 2003b). The appropriate type is primarily determined by the underlying questions and the scope of the research. In addressing *RQ and RO 3*, *multiple cases with single units of analysis* were selected. While both single and multiple designs have been successfully applied, this study coincides with Yin (2003b), who advocates multiple over single case studies, to examine the full complexity of a phenomenon and generate a strong contribution.

4) Selection of the Unit of Analysis

As the unit of analysis, *best-practice companies of the tourism industry* were identified, which use ICTs to co-create and enhance tourist experiences. ‘Best-practice’, a popular term in business studies, refers to leading industry cases that serve as role models to increase success (Hallencreutz and Turner, 2011). While the concept of best-practice remains vaguely defined, it can be described as business excellence in a particular benchmark, award winning, the most popular or widespread practice or an evidence for

a success story (Todaro, 2002). Considering that technology-enabled experiences are limited in practice, creators of experiences usually rely on best-practices in the industry (Binkhorst and Den Dekker, 2009). It was thus imperative to identify companies realising such approaches at present. A purposive sampling method was employed, which proved to be critical to find companies that could provide an understanding of the subject at hand. A set of three pre-defined eligibility criteria for selection was defined.

These criteria required the companies to a) represent the context of the tourism and hospitality industry, b) provide a unique approach to ICTs use for tourist experience enhancement, and c) represent a best-practice case, in that it can evidence a successful current realisation of this process. In addition to these criteria, the principles of maximum case variation, proposed by Flyvbjerg (2011), were followed. Accordingly, companies had to reflect a broad variety of characteristics, such as representing different tourism sectors, countries of operation, ICTs types, ICTs applications, travel stages and means of experience enhancement. This allowed for replication logic, indicating a purposeful selection of cases yielding contrasting results for predictable reasons (Yin, 2003b). By deliberately choosing a variety cases, it was possible to a) diversify the obtained findings, b) develop a more comprehensive understanding and c) strengthen the external validity and analytical generalisation of the final knowledge to be proposed.

5) Definition of the Number of Cases

With respect to the number of cases, the research followed Yin (2003a), who argues that traditional sampling logic does not apply within case study research. Rather, it represents a matter of judgmental choice. While conventional sampling aims to yield representativeness across the population, in case study research it is not the large sample size, but the number of cases determined by theoretical saturation, which is of critical importance (Yin, 2003a). Each case contributes knowledge to the successive case, while the last one is likely to add little knowledge, indicating that saturation has been reached (Small, 2009). For this study, a total number of *five cases within a multiple case design*, were considered as ideal to allow for a cross-case analysis that enables sufficiently broad insights to develop a solid understanding of the subject.

6) Selection of the Methods

The major strength of case study research is the inclusion of multiple sources of evidence, which can generally be drawn from six sources. These comprise documents,

archival records, interviews, direct observation, participant observation and physical artefacts (Yin, 2003b). To develop a high-quality multiple case study, several actions were taken, to a) collect evidence from multiple sources, b) converge and triangulate data (Gilham, 2000) and c) build a solid and transparent chain of evidence, from the research question to the theoretical proposition, the data collected and the conclusions drawn (Yin, 2003b). Data were collected by means of three methods, comprising a) documentary information, b) interviews and c) online observation.

Documentary information through secondary data, such as books, articles, online data, company websites and reports can provide valuable sources of information. Secondary data collection is particularly useful for internal data, such as company information, marketing plans, meeting minutes and external sources, such as published material (statistics accounts and reports) and commercial material (panel research and monitors) (Ghauri and Gronhaug, 2005). Additionally, with businesses being themselves a valuable source of secondary data (Wilson, 2010), the company's online presence through websites and social media can be assessed. In this research, documentary information, including company reports, presentation slides and information online was examined to understand the specific philosophies, motives, processes and the company's role as an actor in the co-creation of an enhanced tourist experience.

Interviews constitute one of the most relevant sources of information and are central to the success of case study research (Yin, 2003b). Case study interviews frequently take place in form of guided, purposeful conversations, rather than structured interviews, whereby semi-structured interviews represent the most frequently adopted type (Gilham, 2000). Semi-structured interviews enable a rich interview in a short period of time, in an open, conversational way with a focus on a set of predefined questions (Merton et al., 1990). This approach is particularly useful when a basis of knowledge has been built and more specific questions need to be asked (Yin, 2003b). By building on the case study propositions (presented in Table 3-10), purposeful natural conversations, based on a set of defined themes and questions were conducted to reveal further detailed insights into experience co-creation and enhancement.

Observation is a critical method to understand a phenomenon holistically (Yin, 2003b). Participant observation allows the researcher to study the reality of a phenomenon from an insider perspective and to participate in the event studied. This is especially relevant when dealing with technologies, as observations provide "*invaluable aids for*

understanding the actual uses of the technology" (Yin, 2003b, p.39). To complement the documentary information and the interviews, online passive participant observation was employed as a tool to gather additional insights by examining the companies' online presence. This was important to a) observe the phenomenon, b) get a first-hand experience and c) triangulate the data through the combination of methods.

7) Consideration of Validity and Reliability

Three main considerations of construct validity, external validity and reliability were taken into account to ensure a high quality case study, shown in Table 3-11. This was of particular importance to address some of the recurring criticisms of case study research, such as the lack of rigour and limited scientific generalisation. By considering these factors, the research coincides with Yin (2003b), who posits that *analytical generalisation of theory* rather than generalisation to the population is at the heart of case study research. The multiple case study did not aim to yield generalisation itself. Rather, it aimed at generating an insightful cross-case analysis to complement the theory development of the *Technology Enhanced Tourist Experience* with a company-perspective in the frame of a bigger study.

Table 3-11. Case Study Validity and Reliability

Tests	***Case Study Tactic***	***Phase of Research***	***Study Approach***
Construct Validity	Use multiple sources of evidence	Data collection	Use multiple data collection methods
	Establish chain of evidence	Data collection	Develop logical evidence from questions, theoretical propositions to analysis
External Validity	Use replication logic in multiple-case studies	Research design	Use multiple cases for analytical generalisation to develop a new theory
Reliability	Use case study protocol Develop case study database	Data collection	Ensure thorough documentation and transparent process to make study replicable

Source: Yin, 2003a, 2003b

3.5.3 Data Collection: Multiple Case Study

The data collection and analysis process of Research Phase 2 was conducted throughout a two-month period during April 2012 and May 2012. This section presents the specific details of the data collection process, including the selection of the companies, the collection of data and the outline of the interview instrument.

1) Selection of the Cases Study Companies

To determine suitable best-practice case studies, companies were identified through a research process in autumn/winter 2011 and selected based on a set of eligibility criteria. In this process, a total of 17 suitable companies were contacted via email and invited to participate in a half-day workshop entitled, the 'Technology Enhanced Tourist Experience Economy'. Due to several restrictions, mainly caused by the geographical distance and the unavailability on the specific date and time, the recruitment process resulted in a total number of five companies, a response rate of 29.4%, agreeing to participate in a half-day workshop in London, UK and the subsequent case study. The detailed recruitment outcome is summarised in Table 3-12.

Table 3-12. Recruitment Outcome of the Multiple Case Study

Recruitment Outcome	***Number***
Refusal to participate in the workshop	4
Geographical inaccessibility	3
No time on the specific date	2
No response	3
Total number contacted	17
Total number of cases for pilot case studies	**5**

Source: Author

The five selected companies represent various industry sectors, including a destination, restaurant and hospitality businesses and an online tourism platform. Table 3-13 depicts the best-practice companies selected, highlighting company name and geographical location, the respective tourism sector, the best-practice ICTs application and the travel stages in which experiences are created. All of these factors were considered to specifically allow for a variety of cases and a maximum case variation for the cross-case analysis (Flyvbjerg, 2011).

Table 3-13. Case Study Company Selection

N	***Company***	***Industry***	***ICTs Best-Practice Application***	***Travel Stage***
1	PixMeAway, AT	Online Search Platform	Picture-based travel inspiration search engine	Pre-travel
2	Inamo Restaurant, UK	Restaurant Sector	E-Table interactive ordering system	During travel
3	VisitBritain, UK	Destination	Social media and consumer-generated LBS	Pre/during/post travel
4	Hotel Lugano Dante, CH	Hospitality	Happy Guest Relationship Management Tool	Pre/during/post travel
5	Sol Melia, Hotels, UK	Hospitality	ME system social media engagement	Pre/during/post travel

Source: Author

2) Data Collection From Multiple Sources of Evidence

As the major strength of case study research, data from multiple sources of evidence were collected (Yin, 2003b) through documentary information, informal interviews and passive online participant observation. *Documentary information* was collected by means of company reports, press releases, presentation slides and written notes from the workshop, which generated critical insights, particularly into the reasons as to why and how ICTs are used to enhance tourist experiences. *Passive online participant observation* was used to collect data, by visiting the companies' online websites, platforms and social media sites. These included the PixMeAway website, the Inamo Restaurant website and Facebook page, the LoveUK Facebook page and location based service application UK Top 50 (VisitBritain), as well as the Sol Melia Facebook page and the Hotel Lugano Dante website and their intranet site MyPage. By doing so, valuable insights could be gathered to understand technology enhancement and co-creation processes and to get a technology enhanced experience online at first-hand.

Interviews with company representatives, including founders, CEOs, general managers, directors and social media managers, were conducted by means of purposeful natural conversations during a dedicated workshop in April 2012. The workshop started with an introductory presentation to set the scene for the subject, followed by 30-minute presentations, in which the company representatives showcased their respective approaches to tourist experience creation to an expert audience of 25 people. This was followed by an interactive discussion with the audience and informal interviews. The interviews were based on an instrument (see Appendix 4) and conducted in a natural manner, for which purpose written notes were taken, rather than using a formal audio-recording (Gilham, 2000). The interviews allowed eliciting key information about the company's background, the company's and the employees' roles as actors in experience co-creation, the rationale for ICTs integration, ICTs use, as well as experience and value outcomes and future intentions for experience facilitation.

3) Interview Instrument

The instrument for the purposeful interviews was designed based on the conceptual framework (Figure 2-12) and the theoretical propositions of the case study, as defined above (Table 3-10). The interview instrument consisted of a set of broad themes necessary to cover key topics, while allowing for sufficient flexibility to discuss

emerging issues depending on the natural flow of the interview conversation (Robson, 1993). Table 3-14 provides an overview of the interview instrument, its embedded themes and sample questions.

Table 3-14. Overview of the Interview Instrument Case Study

Overall Theme	***Sample Questions***
Company Background	What is the company's philosophy and rationale for ICTs use to enhance experiences?
Types of ICTs	What types of ICTs do you use to enhance experiences in your company?
Travel Stages	In which stages of travel (pre/during/post) do you use ICTs to co-create and enhance the experience?
Company Role	What role do you (and your employees) play in the enhancement of the experience and experience co-creation process through ICTs?
Enhancement Process	How are ICTs used to support activities/enhance the experience in each stage of travel?
Value and Outcomes	What are the outcomes of a Technology Enhanced Tourist Experience for the company and the tourist consumer?

Source: Author

3.5.4 Data Analysis: Multiple Case Study

The multiple case study strategy combined data drawn from three sources of evidence, as outlined in the data collection process. To analyse the data, the method of a qualitative template analysis, as proposed by Miles and Huberman (1994), was used to perform a structured and transparent analysis based on the theoretical propositions (ICTs as a resource, ICTs in the travel process, company as experience co-creation actor, experience co-creation process, experience co-creation outcomes). The data analysis was structured in two steps. First, the five case studies were analysed individually through the writing of descriptive case study reports. This was followed by converging the reports into a cross-case analysis to highlight similarities and commonalities of the cases, and most importantly, to create an integrated understanding of the *Technology Enhanced Tourist Experience* from a company perspective. By doing so, the findings were triangulated to allow for the overall construct validity to be enhanced. The findings of this research phase also provided the knowledge basis for Research Phase 3, which is discussed in section 3.6 next.

3.6 *Phase 3: Semi-Structured In-depth Interviews*

This section outlines Research Phase 3, the consumer semi-structured in-depth interviews, which had the goal to explore how ICTs can enhance the tourist experience and experience co-creation process from a *consumer perspective* (RO3) and what

factors constitute the *Technology Enhanced Tourist Experience* (RO4). First, the rationale for the method is discussed, before explaining the research design and presenting a detailed outline of the comprehensive data collection and data analysis.

3.6.1 Rationale Phase 3: Semi-Structured In-depth Interviews

The qualitative enquiry is particularly useful for experience research, due to its focus on the tourist's individual interpretation of the experience (Ryan, 2010; Prebensen and Foss, 2011; Matteucci, 2013) and the understanding of the individual as an actor and resource integrator of the co-creation experience (Lusch and Vargo, 2014). Within the services marketing and management domain, qualitative in-depth interviews represent one of the most advocated methods to develop a profound understanding about consumers. They enable to capture an insider view (Lee et al., 1994) and to uncover the participant's stance (Frochot and Batat, 2013), narratives and stories of past experiences (Ryan, 2010) and own interpretations and constructions of, and meanings attached to, experiences (Lee et al., 1994; Wearing and Wearing, 1996).

This method not only allows for critical insights into specific situations, but also generates an understanding of the meaning of individuals' tourist experiences (Andereck et al., 2006; Prebensen and Foss, 2011; Frochot and Batat, 2013). Several studies have advocated the benefits of applying interviews in experience research in the past (Andersson and Mossberg, 2004; Nickerson et al., 2004; Carmichael, 2005). More recently, Gopalan and Narayan (2010) used in-depth interviews to uncover dimensions that affect the overall service experience, while Kim et al. (2011) conducted interviews to identify themes and to develop a construct of memorable tourist experiences.

While other qualitative methods, such as focus group interviews, allow for an understanding of group phenomena, the emphasis in this study is to explore the experience that is co-created by, and emerges within, the individual through interaction (Larsen, 2007; Vargo and Akaka, 2012; Wieland et al., 2012). Likewise, diaries, while being a useful method to understand tourist behaviour and personal accounts (Pocock et al., 2009), would not allow eliciting specific answers that are of interest to the researcher or using probing questions in case specific aspects require further exploration. An additional rationale for choosing interviews, as opposed to methods accompanying the tourist on-site, is that tourists in the pre-travel and post-travel stages

are difficult to access and reach. Only a method that allows individuals to talk about the pre/during/post stages of past experiences was useful to uncover the *Technology Enhanced Tourist Experience* holistically.

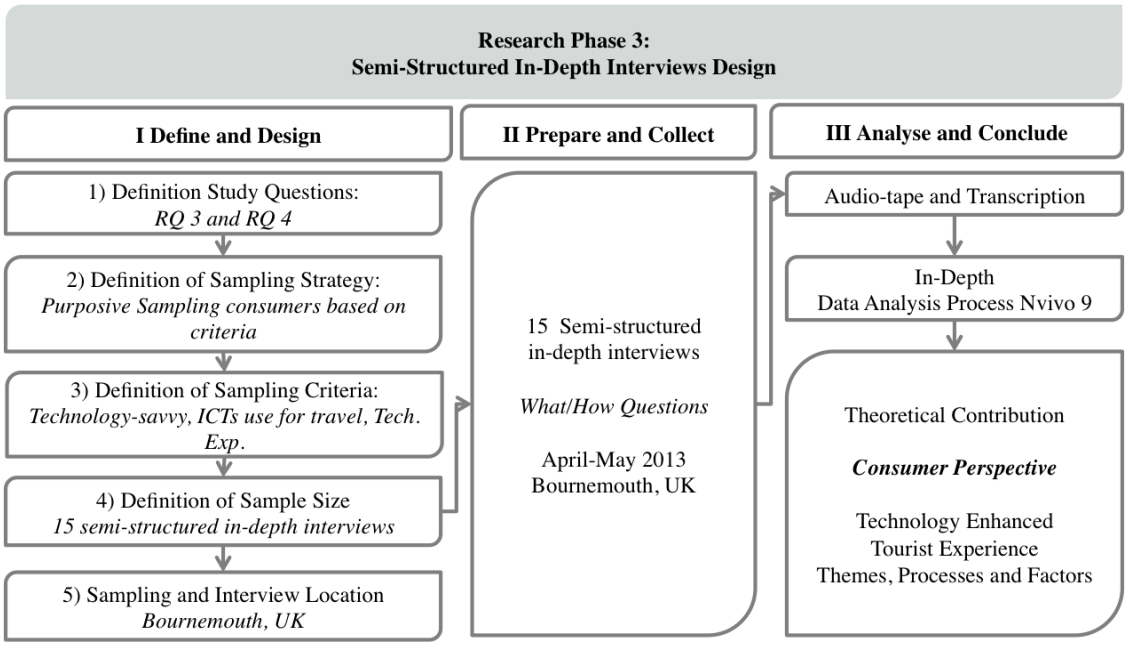
Despite the time-intensive data collection and analysis process in qualitative research, it is for the numerous benefits highlighted above that qualitative in-depth interviews were chosen. Specifically, because interviews enable the researcher to a) directly speak and listen to individuals, b) elicit three-stage tourist experience narratives and c) explore how individuals describe their tourist experiences (Maoz and Bekerman, 2010). Three prevalent forms of interviews exist, namely unstructured, semi-structured and structured. Compared to structured interviews, semi-structured interviews contain open-ended questions that address the study's goals, while retaining sufficient flexibility to explore emerging stories closer (Frochot and Batat, 2013).

This is of particular relevance when extracting the meanings participants ascribe to certain phenomena (Saunders et al., 2009). An unstructured interview approach was deemed as inapt, as the underlying theoretical constructs were known and an understanding of the phenomenon was established. For these reasons, semi-structured interviews were chosen to a) cover a list of pre-defined themes (Patton, 2002) through the conceptual framework of this study (Chapter 2.5), while b) ensuring enough flexibility to vary questions in the course of the interview and c) gaining a profound understanding of the theories to emerge (Saunders et al., 2009). The chapter now turns to explain the detailed research design.

3.6.2 Research Design: Semi-Structured In-Depth Interviews

The research design of the semi-structured in-depth interviews encompasses a number of critical considerations, including the overall sampling strategy, the sample definition and sample size, the development of the interview instrument and the interview process itself. The research design is depicted in Figure 3-6.

Figure 3-6. Research Design: Semi-Structured In-Depth Interviews



Source: Author

1) Definition of the Study Questions

The semi-structured in-depth interviews served the purpose to explore the *Technology Enhanced Tourist Experience* from a consumer-perspective. By doing so, the company perspective outlined in Chapter 3.5 was complemented and *Research Question 3* and *Research Question 4* were addressed.

Research Question 3 and Research Question 4

How can the tourist experience and experience co-creation be enhanced through ICTs from a company and consumer perspective?

What factors constitute the Technology Enhanced Tourist Experience?

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2) Definition of the Sampling Strategy

The sampling procedure followed a purposive sampling technique, a commonly used method in qualitative research when participants need to fulfil specific criteria (Bryman, 2008; Saunders et al., 2009). The rationale for using purposive, as opposed to random sampling, was primarily based on the need to gather suitable interview participants, who have been involved in the required situation (Robson, 1993). This was critical for this study, which explores a subject in the field of ICTs. When researching technologies, scholars claim that people who have never used technologies do not know what to

expect and thus, cannot express their perceptions or value of use (Pura, 2005; Dickinger, 2006; Pihlström, 2008).

Based on these assumptions, individuals, who have ICTs usage experience had to be identified in order to talk about how ICTs are used and integrated as a resource in the co-creation and enhancement of their tourist experiences. It is with this necessity in mind that purposive sampling was determined as essential to find people matching pre-defined criteria, rather than using alternative strategies not yielding the necessary participants, but aiming for statistical representativeness (Bryman, 2008). While this decision caused the exclusion of non-technology users, implying a potential limitation, it was beyond the scope of this study to explore reasons for non-technology adoption within the tourist experience. Instead, the focus was on developing an understanding of tourist consumers and how ICTs can enhance their tourist experiences.

3) Sampling Criteria – Consumer Profile

In order to recruit potential interview participants, a sample profile had to be defined. The profile consisted of three main criteria (Table 3-15). First, consumers had to fulfil the requirement of technology savvy-ness, which prescribed a) being an owner of a smartphone and b) demonstrating heavy, defined as daily, use of a smartphone and social media channels. Second, participants must have had prior experience of using ICTs for travel activities to ensure their ability to narrate technology enhanced tourist experiences first-hand. Third, participants must have used ICTs for travel activities within 12 months prior to data collection (May 2012-May 2013) to ensure their vivid recollection of experiences, and thus reconstruction of experience narratives. No further inclusion or exclusion criteria were necessary in terms of the tourist's geographical location, nationality, the tourist travel destination visited (e.g. domestic or overseas) or the travel type (e.g. leisure, VFR or business). Rather, the emphasis was on uncovering potential contextual differences in the *Technology Enhanced Tourist Experience*.

Table 3-15. Tourist Consumer Participant Profile

Criteria	***Variables***
1. Technology-savviness	Owner of a smart phone
	Daily smart phone user
	Daily social media user
2. Prior experience of technology enhanced tourist experiences	Recall occasions and experiences for which ICTs were used in the pre/during/post stages of travel
3. ICTs use for travel within last 12 months	May 2012 - May 2013

Source: Author

4) Definition of the Sample Size

With respect to the sample size, the exact number of interviews needed to gather meaningful data is debated. In principle, Guest et al. (2006) suggest to identify an indicative number prior to data collection, due to the great variation of recommended interview numbers ranging from *six participants* in phenomenological studies to *thirty-five participants* in ethnographic studies (Morse, 1994). For instance, 16 qualitative interviews with a purposive sampling were conducted to develop seminal work on the leisure experience (Lee et al., 1994), while more recently, twelve in-depth interviews were employed within a mixed methods study to identify critical drivers of consumer experiences (Gopalan and Narayan, 2010).

Overall, Kuzel (1992) provides sample size recommendations based on the homogeneity and heterogeneity of the sample, respectively and recommends six to eight interviews for the former and twelve to twenty for the latter. As such, it is important to evaluate when theoretical saturation can be reached. Griffin and Hauser (1993) suggest that nine in-depth interviews for one hour, resulting in a total amount of nine hours of interview data, are able to uncover 90% of consumer needs. A study by Guest et al. (2006), who empirically explored the ideal number of interviews, concluded that saturation seems to be achieved after 12 interviews, at which point no further themes appear to emerge. In line with these recommendations, 15 to 20 in-depth interviews, with a minimum of one hour each (resulting in 15-20 hours), were defined as the anticipated number necessary to gather a comprehensive understanding of the subject.

5) Sampling and Interview Location

Due to the need to recruit individuals meeting the sampling criteria, the geographical location was secondary. Rather, it was essential to find participants fulfilling the

prerequisites, for which purpose locations with a potentially high concentration of technology-savvy users, such as urban and university environments, were used for participant recruitment. First, potential participants were approached and filtered by asking several screening questions based on the sampling criteria. Following this step, participants, who met the criteria and agreed to participate, were asked to arrange appointments at convenient times and places. The recruitment of participants within the proximity of the researcher's location was a key factor to enable face-to-face interviews. This was deemed of particular importance as the physical presence of the interviewer and the participant creates a level of interactivity that technology-mediated means cannot replace (Frochot and Moscarola, 2012). Moreover, such interviews allow for a situation that encourages participants to better express themselves, in both length and extent. All interviews were conducted in Bournemouth, UK, in April and May 2013.

3.6.3 Data Collection: Semi-Structured In-Depth Interviews

This section outlines the data collection process of the semi-structured in-depth consumer interviews. It presents considerations pertaining to the interview instrument, interview process, elicitation and recollection and last, interview saturation and length.

3.6.3.1 Interview Instrument Development

In developing the interview instrument, a number of critical considerations were necessary. Schensul et al. (1999) suggest that precise formulation and phrasing are critical for questions to be easily understood. Questions need to be short, clear and neutral, and should give participants an opportunity to talk extensively, rather than providing short answers and limited insights. Complying with these design principles, questions were developed as follows to define a) open-ended questions, not leading towards pre-defined answers, b) non-dichotomous questions to avoid yes/no answers, c) neutral questions that would not favour certain responses, d) questions that contain one idea at a time and e) clear questions that avoid jargon.

The content of the interview instrument was derived from two main sources, including the literature review (Chapter 2) and specifically, the conceptual framework (Chapter 2.5). The semi-structured interviews were characterised by an overall iterative design (Gopalan and Narayan, 2010). This meant that the interview instrument was progressively refined from one interview to the next in order to adapt questions and

allow for emerging themes to be incorporated. Table 3-16 provides an overview of the underlying themes, while the final interview instrument can be found in Appendix 7.

Table 3-16. Overall Themes of the Interview Instrument

Themes	***Content***	***Literature Source***
ICTs	General ICTs usage and savviness, types of ICTs used, reasons for and importance of ICTs use in experiences and co-creation	Beeton et al., 2006; Gretzel et al., 2006b; Tussyadiah and Fesenmaier, 2007
	The stages of ICTs implementation and role in supporting activities is explored	Crouch and Desforges, 2003; Stamboulis and Skayannis, 2003; Tussyadiah and Fesenmaier, 2007; Tussyadiah and Fesenmaier, 2009
Experience Co-creation	Reasons for and importance of co-creation, use of ICTs for co-creation processes and practices	Prahalad and Ramaswamy, 2004a,b; Binkhorst and Den Dekker, 2009; Prebensen and Foss, 2011
	People involved in experience and value co-creation	Ek et al., 2008; Payne et al., 2008; Huang and Hsu, 2012; Sfandla and Björk, 2013
Experience Enhancement Process	ICTs as a enhancer of the experience, what is most enhanced, enhancement compared to conventional experience, enhancement of granular elements	Gretzel et al., 2006b; Buhalis and Law, 2008; Gretzel and Jamal, 2009; Kang and Gretzel, 2012; Wang et al., 2012
Value	Outcomes and value obtained through enhanced experiences, added value compared to normal experiences, ICTs enhancement attributes	Jennings et al., 2009; Prebensen and Foss, 2011; Niininen et al., 2007; Sandström et al., 2008; Volo, 2009; Sfandla and Björk, 2013
Technology Enhanced Tourist Experience	Experience characteristics, overall factors of this experience, new experience definition	This Study

Source: Author

3.6.3.2 Interview Process

The interview process was divided into two main stages, encompassing a preliminary pilot interview stage and the main interview stage, as outlined next.

1) Pilot Interview Stage

Before the main interviews, pilot testing was undertaken, as a recommended process not only to validate the quality of the interview instrument, but also to ensure a smooth interview process (van Teijlingen and Hundley, 2002). Accordingly, the interview instrument was tested on a small scale with three interview participants, who were made aware of the pilot-testing of the instrument. In this process, direct feedback about questions, formulation and process was gathered, participant suggestions were included and the instrument was adapted accordingly. The overall structure, themes and content were confirmed, while minor modifications were made by simplifying the wording, changing the order in some cases and splitting a few questions into sub-questions in

order to reduce their complexity. This resulted in an improved instrument for the main interview stage. The second goal of the pilot testing was to ensure the quality of the interview process, by allowing the researcher to practice her interview skills, test the length of the interview and determine whether the questions yielded useful and relevant insights. As all issues were addressed, the pilot test was completed and the main interview stage was initiated, as outlined next.

2) Main Interview Stage

Following the participant recruitment stage based on the pre-defined requirements (section 3.6.2), the interviews were conducted throughout April and May 2013, in Bournemouth, UK. The interview process started with a preparation phase, in which three considerations were ensured, namely the interview environment, interview instructions and ethical information. First, a safe and comfortable environment was arranged in a public place, in which a trustworthy and non-judgmental relationship was established to encourage the 'participant to become the teacher' and to stimulate the participant to express feelings and thoughts freely (Holloway and Wheeler, 2010).

Second, participants were provided with comprehensive instructions based on a dedicated Participant Information Sheet (see Appendix 5). This included the nature, purpose and topic of the study, as well as the format, structure and anticipated length of the interview of at least one hour. Providing time indications was particularly valuable for participants to offer them a sense of the level of detail desired in conversations and narratives (Elliott, 2005). Third, participants were informed about the analysis and dissemination of the research, ethical considerations, the anonymity of their participation and their right to withdraw at any time.

Following the explanation of all details and the clarification of any questions participants may have had, written consent was collected (see Appendix 6), before the audio-recording was commenced. All interviews were recorded by means of a hand-held voice recorder and were subsequently transcribed verbatim. The immediate post-interview transcription ensured not only a continuous data analysis, but also allowed for a reciprocal process, as the researcher could develop a preliminary understanding of the data and integrate key themes from one interview to the next. Specifically, the instrument was iteratively adapted to a) clarify and integrate emergent themes, b) investigate the relevance of specific outliers and c) explore potential relationships among variables. By doing so, the instrument was refined on an on-going basis.

3.6.3.3 Interview Elicitation and Recollection

The interviews focused on the participants, being the central narrators of the experience, with the purpose to explore stories of individuals, access their minds (Gretzel and Fesenmaier, 2010) and understand the context and meaning of specific behaviour (Seidman, 2006). Since the majority of thinking occurs in the unconscious, experience perceptions and memories are difficult to capture. This renders interviewing a challenging endeavour. Hence, effective elicitation methods were implemented to uncover feelings, beliefs and perceptions, which would normally be difficult to articulate (Gretzel and Fesenmaier, 2010). This was important to extract participants' experiences from the past, which are generally difficult to recall (Ellis et al., 2011).

Several procedures were implemented to facilitate the elicitation and recollection of experiences. One common method is to ask participants to recall past experiences (Obenour et al., 2006). Accordingly, participants were invited to recall three travel-events of the past 12 months, in which they used ICTs. Not only was this technique beneficial for the recollection of specific experiences, but it also provided a mental anchor for participants to come back to and relate experiences in the course of the interview. To elicit how the granular elements of the tourist experience are changing through ICTs, a graphical sheet was used to aid the discussion. To extract a single definition of the *Technology Enhanced Tourist Experience*, participants were provided with a sheet of paper to write their definition at the end of the interview. In order to extract experience narratives in detail, probing and follow-up questions were employed. These included questions, such as "*can you give me an example?"*, "*what exactly do you mean by that?*" and "*could you explain that a bit more?*" (Ryan, 2000). These helped the researcher to keep the conversation going, ask for more details and clarify themes (Rubin and Rubin, 2004).

3.6.3.4 Interview Saturation and Length

Having defined an initial estimation of 15 to 20 in-depth interviews, theoretical saturation became evident after the 12th interview, which was manifested in that the same answers, themes and patterns continued to reappear, while few new insights were gathered. An additional three interviews were conducted to re-confirm saturation and to ensure that no further significant findings would emerge. This saturation pattern appeared to conform with studies, such as Griffin and Hauser (1993) who suggest that nine one-hour interviews are able to cover 90% of the data and Guest et al. (2006) who

similarly reported saturation after twelve interviews. Based on the saturation, the interview process was completed after the 15th interview.

The conducted interviews lasted between a minimum of 50 minutes and a maximum of one hour and 20 minutes. This resulted in an average interview length of one hour and 24 minutes (84 minutes), which constituted an ideal length, not only to obtain breadth, but also depth of information on the subject at hand. While interview length generally varies, 90 minutes are posited as the ideal length for qualitative interviews (Seidman, 1998), which has been approximately reached with the interviews lasting 84 minutes on average. As a result, a total of 21 hours of raw audio-recordings were obtained, which once transcribed, translated into 286 pages of single-spaced text in Microsoft Word and an equivalent of 147,839 transcribed words for further analysis (see Table 3-17).

Table 3-17. Interview and Transcription Length

Nr.	***Participant***	***Interview Time (min)***	***Word Count Transcripts***	***Pages Transcripts***
1	Laura	70	9316	19
2	Jane	123	13214	28
3	Martha	122	15968	29
4	Veronica	83	6793	16
5	Sam	86	11762	19
6	Paul	148	15549	24
7	John	65	7578	18
8	Sandra	84	9870	19
9	Teresa	85	9705	21
10	Andrew	53	6148	11
11	Dan	97	13019	24
12	Aaron	62	6122	12
13	Steve	67	8917	16
14	Rachel	50	6557	14
15	Hanna	63	7321	16
15		***1258***	***147839***	***286***
		20.96 ~ 21(h)	***Total Interview Hours***	
		83.86 ~ 84 (min) 1 hour 24 minutes	***Average Interview Time***	

Source: Author

3.6.4 Data Analysis: Semi-Structured In-Depth Interviews

This section outlines the data analysis process. It describes the interview transcription, the computer-assisted analysis process, the analysis method and the detailed coding and analysis strategy. The qualitative data analysis was conducted over a four-month period from June to September 2013.

3.6.4.1 Transcription Process

All semi-structured interviews were audiotaped by means of an Olympus hand-held voice recorder and subsequently manually transcribed verbatim in Microsoft Word. Audio-recording is considered valuable to allow for potential re-listening of the interviews and an accurate interpretation of the data (Rubin and Rubin, 2004). The interviews were transcribed by the researcher herself, as an integral part of the qualitative research process (Rubin and Rubin, 2004). The researcher, having good typing skills with an ability to type 72 wpm (words per minute), manually transcribed all interviews, by using a keyboard and a foot paddle in the Olympus transcription kit. The foot paddle simplified the process of playing forward and backward and, by doing so, enabled a dynamic shift between audio passages. The synergies between the researcher's typing abilities and the equipment permitted an efficient process, which resulted in a ratio of one-hour interview within three-hours of transcription (1h/3h), amounting up to a total transcription time of approximately 65 hours.

The considerably most crucial benefit of the manual transcription was that it allowed the researcher to familiarise herself with, and immerse herself in, the data (Rubin and Rubin, 2004). On a continuous basis, it was thus possible to transcribe the audio-recordings, take notes of initial conceptual thoughts, adjust the instrument and include emerging questions from one interview to the next. Due to their semi-structured focus, the interviews did only contain parts that were relevant for the study. As a result, all interviews were transcribed from the beginning to the end, including both researcher and participant comments. Moreover, verbal and non-verbal emotions, annotations, emphases, movements, sentiments and pauses were included in the transcription.

By doing so, the underlying meanings associated with the experience narratives were maintained in the analysis of the written transcripts. This was of particular relevance in this study, as non-verbal communication has provided vital clues to interpret experiences, which otherwise might have been lost or misinterpreted. For instance, the context of ICTs has triggered numerous non-verbal expressions, which were transcribed in brackets. These include *enthusiasm for technology*, reflected in smiling, energetic narratives (laugh, smile), *emphasis on specific words* (YET, ACTUAL) or *hesitation and scepticism towards technology* (hesitation), which was reflected in sceptical body language or pausing of speech (ehm…, think). Table 3-18 showcases several instances

of verbal and non-verbal annotations emerged in the interviews and their corresponding transcription. A sample of a full interview transcript is included in Appendix 8.

Table 3-18. Verbal and Non-Verbal Transcription

Verbal and Non-Verbal Annotations	***Transcription***
Laughter and Smiling Reflecting positive experience memories	"Because it involves, it connects my fun, social game (laugh) with a reward, with an ACTUAL reward. Like a physical reward, like a tea or so, or a free coke (laugh). That is physical and that I can touch. Yeah (smile)."(Martha)
Word Emphasis Reflecting importance of specific meanings	"I feel like that it is rude as well because you are spending time on the phone and kind of not enjoying or interacting with ACTUAL people that are around you." (Rachel)
Hesitation Reflecting uncertainty	"Hmm (laugh) What I gain from it? Maybe (hesitation) recognition. Yeah. Taking nice pictures and being in a really nice place (laugh) and being admired because it's raining at home. But yeah I mean when you think about it, it is a bit stupid, isn't it?" (Jane)

Source: Author

3.6.4.2 Computer-Assisted Qualitative Data Analysis

Qualitative research is typically interested in exploration, description and theory building, for which purpose generally large amounts of data are analysed. The use of supporting computer-assisted tools has become increasingly embraced as a common practice to manage and analyse extensive data (Seale, 2000; Bazeley, 2007). Despite its widespread adoption, a debate surrounds the value and limitations of qualitative analysis software. Miles and Huberman (1994) argue that due to its principal advantage to manage large numbers of interview transcripts, notes and protocols, computer-assisted analysis has become extensively advocated to avoid data overload. Its main purpose and capabilities remain however frequently misunderstood.

Unlike the well-known quantitative data analysis software SPSS, which allows for the analysis of data almost automatically, qualitative computer-assisted analysis merely provides the basic tool to mechanise tasks of ordering, archiving and administrating data, rather than analysing it (Kelle, 2004). In addressing the on-going debate regarding the closeness and distance to data in manual and computer-assisted analysis respectively, Bazeley (2007) highlights that the former might cause the researcher to get lost in the data, while the latter prevents such risks by maintaining the necessary distance and overview. One of the key benefits of computer-assisted analysis in this study was the ability to conduct a systematic processing of data. This not only ensured

transparent coding, but most importantly, enhanced the overall rigour and validity of the study (Bazeley, 2007), while minimising coding subjectivity (Ryan, 2000).

Having reviewed the prevalent arguments surrounding computer-assisted data analysis, it was concluded that its advantages outweigh its shortcomings and the computer-assisted software QSR NVivo 10 shall be adopted. NVivo provides a modern tool to organise qualitative data within one single system (Kelle, 2004), in an efficient and effective manner (Bazeley, 2007). Its key benefits are the speed and rigour of data processing and the ability to easily check and validate the completeness of coding through highlighted colour schemes (Seale, 2000). Additionally, it possesses multiple project management features, such as storing the researcher's comments and memos linked to the data, searching for keywords within transcripts and setting filters for finding text efficiently (Kelle, 2004). Considering the extensive number of *2020 individual codes* obtained after the 'coding-on stage' in this study, NVivo could be confirmed as an invaluable tool to micro-analyse data and develop a wealth of codes, while maintaining overview and transparency in the coding process.

3.6.4.3 Qualitative Template Analysis Method

Qualitative content analysis is generally concerned with seeking meaning in the dataset. Data do not speak for themselves, but rather it is the researcher, who with their own background and knowledge about a specific topic, constructs meaning (Schreier, 2012). In this vein, a suitable method for analysis had to be identified to reflect the underlying research objectives (Chapter 1.4) and the literature review (Chapter 2). While considering the wide range of analysis methods, such as grounded theory (Glaser and Strauss, 1967; Glaser, 1992; Strauss and Corbin, 1998), phenomenological analysis (Smith et al., 2009) and generic thematic analysis (Braun and Clarke, 2006), this study has chosen *template analysis* for the following reasons. Template analysis, as a form of thematic analysis, represents a flexible method that balances a pre-defined structure with the specific requirements of a study. Initially framed by Miles and Huberman (1994), it has become a widely adopted technique, which is compatible with several epistemological positions (e.g. realism), which seek objectivity and coding reliability.

In an attempt to foster transparency and objectivity, this study promoted the need for a rigorous qualitative research process, with template analysis as the selected means to do so. Its biggest strength lies in the balance of a structured, systematic approach based on a-priori themes and a preliminary template (Miles and Huberman, 1994). At the same

time, it maintains the necessary flexibility for broad themes to be revised, redefined or discarded all together (King, 2002). The conceptual framework (Chapter 2.5) was used as the theoretical foundation, based on which the analysis template was built, and later, new emergent theory was integrated. In addition, written notes from the transcription process were used to refine the coding template, based on strong emerging themes.

For instance, the theme 'experience co-creation' (conceptual framework) was divided into four sub-categories, 'Connection', 'C2C Co-Creation', 'B2C Co-Creation' and 'C2L Co-Creation'. Table 3-19 depicts the coding template, which consists of six overall a-priori themes and a total of 29 a-priori codes. One separate code was added, called 'Additional/Undefined' to account for ambiguous data, which in the initial stages, were challenging to assign. While conducting a-priori coding, this study followed Bazeley (2007) to keep an open mind to change. A flexible approach was adopted in that categories were revised, refined, split and expanded on an on-going basis.

Table 3-19. A-priori Coding Template

A-priori Themes	***A-priori Codes***
1. Tourist Experience	1. Tourist Experience
	2. Granular Elements
2. Experience Co-Creation	3. Connection
	4. C2C Co-Creation
	5. B2C Co-Creation
	6. C2L Co-Creation
3. ICTs	7. Technology Use
	8. Technology Need
	9. Technology Benefits (Experience Enablers)
	10. Technology Type
	11. Technology Role
	12. Technological Requirements/Barriers
	13. Source/Material
4. Travel Stage	14. Pre-Stage
	15. Transit-Stage
	16. During-Stage
	17. Post-Stage
5. Tourist Activity	18. Information
	19. Inspiration
	20. Planning
	21. Decision-Making
	22. Review Active/Passive
	23. Location
	24. Navigation
	25. Transportation
	26. Sharing
6. Technology Enhanced Tourist Experience	27. Technology Enhanced Tourist Experience Factors
	28. Tech Experience Enhancement
	29. Tech Experience Diminishment
7. Additional	30. Undefined

Source: Author

3.6.4.4 Qualitative Coding and Analysis Strategy

The raw and transcribed interview documents represent "*the undigested complexity of reality*" (Patton, 2002, p.463). In order to make sense of them, codes are required to extract analytical concepts, patterns and themes (Bazeley, 2007). The procedure of coding in qualitative research generally refers to assigning names and labels to raw text for the purpose of linking data to ideas (Richards, 2005) and ultimately, forming themes (Miles and Huberman, 1994). Through this process, not only linkages between data and codes, but also linkages among codes become evident (Bazeley, 2007), which creates the very basis for analytical concepts and theories. According to Coffey and Atkinson (1996), the coding process starts with broad coding, which gradually moves into more detail. Braun and Clarke (2006) propose a logical five step-by-step coding approach to move from familiarising with the data, generating initial codes, searching for themes, reviewing themes to defining and naming specific themes.

In line with these scholars and the principles of template analysis outlined above, a rigorous six-stage coding process was adopted (see Table 3-20). Preceding the actual coding, transcription, data familiarisation and import were completed (Phase 0). This was followed by the actual coding procedure, including a-priori conceptual framework coding (Phase 1), coding-on and hierarchy development (Phase 2), distilling, sorting and meta-coding (Phase 3), clustering and theme development (Phase 4), refining and validating themes (Phase 5) and finalising themes and theory building (Phase 6). What makes the coding strategy of this study distinct is its thoroughness and the micro-coding approach adopted. Instead of coding large chunks of text into the six generic a-priori themes, text was sliced into micro-narratives for a detailed analysis, through which a wealth of 2020 codes was obtained. For instance, instead of assigning all narratives to the overall 'co-creation' theme, four distinct sub-categories emerged, and one of those, 'C2F Co-Creation', consisting of 76 unique micro sub-codes.

Through the coding-on and the subsequent sorting process, small codes were merged, ordered and meta-code levels were built. Bazeley (2007, p.72) supports the value of such detailed coding, by suggesting that "*slicing data into its component parts opens up analytical possibilities through the recombination of coded passages*". The micro-analysis required detailed attention to codes and their inherent meanings, which were merged and clustered to obtain broader codes and themes. An additional value of this approach lies in the validation of coding, as the researcher shifts 'from broad to

detailed, and from detailed to broad again' for final theory building. Next, the six-stage coding strategy is outlined step-by-step.

Table 3-20. Coding and Analysis Strategy

Coding Phase	***Analysis Strategy***	***Analysis Process***
Phase 0	Transcription and Data Familiarisation	Transcribe transcripts, take notes and highlight ideas
	Import Transcripts into NVivo 10 and Development Folder System	Develop system, prepare and organise the data
Phase 1	A-Priori Conceptual Framework Coding	Examine the data Template coding based on the conceptual framework, initial hierarchy
Phase 2	Coding-on and Hierarchy Development	Detailed inductive coding and hierarchy development, Coding-on, reordering, reshuffling and hierarchies
Phase 3	Distilling, Sorting and Meta-Coding	Reduce and order codes, develop hierarchies and meta-structures for themes
Phase 4	Clustering and Development of Themes	Clustering and developing themes, exploring relationships
Phase 5	Refining and Validating Themes	Refining, double-checking and cleaning themes
Phase 6	Finalising Themes and Theory Building	Finalising categories, and building final themes for the theoretical contribution

Source: Author

Phase 0 Transcription and Data Familiarisation

The coding process started with the preparation of Phase 0, which encompassed the audio-file transcription and data familiarisation by taking notes of initial thoughts and ideas. This step was followed by the import of the Microsoft Word transcripts into the computer-assisted analysis software NVivo10 and the development of a logical folder system to store the data and create memos (documents with conceptual notes), linked to the corresponding data. During the transcription, written notes were taken to capture potential themes as a means to conceptualise early in the analysis (Bazeley, 2007).

Phase 1: A-Priori Conceptual Framework Coding

Following the template analysis method (Miles and Huberman, 1994), the data coding started with an a-priori coding template, as shown in Table 3-19. A broad top-down approach, commonly referred to as 'broad brush coding', was adopted, based on the six a-priori themes and 29 a-priori codes. The benefit of a-priori coding was to maintain an overview, while avoiding the risk of obtaining too many codes, before proceeding with more detailed coding. Following the coding of the first three transcripts, reoccurring codes were added and existing ones were refined in wording, while pertaining to the overall structure. Thereby, it became evident that 'Context' and 'Need' emerged as

major themes, while 'Tourist Activity' was refined as 'Technology Enhanced Tourist Experience Enhancement Process'. 'Tourist Experience', as a concept without technology enhancement was moved under the theme 'additional', as it was not further pursued within the analysis.

This process resulted in seven meta-themes, one 'additional' theme and 47 sub-codes, obtained from numerous sources (interview coding source) and references (citations coded). Table 3-21 provides a summary, while the full coding outline is included in Appendix 9. As additional means of analysis, keyword search and word-frequency queries were performed at this stage to identify potential latent patterns in the data. A first mind map was drawn to manually analyse the codes, capture themes and organise thoughts for clarity and further coding steps. As final part of Phase 1, Bazeley's (2007) suggestion was followed, namely to convert the flat codes into a hierarchical structure.

Table 3-21. Coding Strategy: Phase 1: Conceptual Framework Coding

Meta-Themes		***Sub-Codes***	***Nr Source***	***Nr References***
1.	Experience Co-Creation	4	15	21
2.	Context	5	15	144
3.	Need	3	12	112
4.	Travel Stages	4	15	231
5.	Technology	9	15	707
6.	Technology Enhanced Tourist Experience Enhancement Process	16	15	913
7.	Technology Enhanced Tourist Experience Enhanced Experience	4	15	404
8.	Additional	2	13	34

Source: Author

Phase 2: Coding-On and Hierarchy Development

Coding-on is a term shaped by Richards (2005) who defines it as a process of coding broad codes into more refined, smaller sub-codes and conceptually advancing the existing codes. Fracturing and slicing data is a key process to break open the text, extract the content of each sentence, read between the lines and explore underlying meaning (Bazeley, 2007). Coding-on aimed at micro-coding the seven meta-themes and 47 sub-codes through a more detailed analysis. All meta-themes and sub-codes were coded-on, leading to two to seven sub-coding levels each, with the majority of themes consisting of five coding levels. Through such detailed coding, it was possible to validate whether the detailed content fitted the overall meta-theme or had to be moved to a different theme (see Appendix 10).

Phase 2 was the most labour-intense task of the analysis, requiring not only extensive time efforts but also simultaneous tasks. It included a) interpreting data, b) coding in-depth while maintaining an overview of the codes and c) re-ordering and shifting codes to the right themes at the same time. This process resulted in a wealth of 2020 micro-codes, which were sorted in a multi-level hierarchy structure. Due to the benefits of using NVivo in dealing with this complexity, a clear structure of the codes could be maintained. Table 3-22 depicts an example of how the coding-on procedure was performed in practice, by demonstrating how the meta theme 'technology' was coded-on to 'technological issues', coded-on to 'technology benefits', coded-on to 'cause' and finally micro-coded to 'functionality-push information' (Code Level 5).

Table 3-22. Coding Strategy: Phase 2: Coding-On

Meta-Themes 1	*Code Level 2*	*Code Level 3*	*Code Level 4*	*Code Level 5*
Technology	Source			
	Technology Characteristics	Technological Issues (Experience Barriers)		
	Technology Use	Technological Wishes		
	Technology Issues	Future Opportunities		Technology (general, website)
		Technology Benefits (Experience Enablers)	Effect	Software (applications, social media)
			Cause	Hardware (all-in-one, mobile device)
				Functionalities (push information, recognition, ease, pattern)

Source: Author

Phase 3: Coding: Distilling, Sorting and Meta-Coding

Having coded all data to the upmost detail, the next step was to go from 'detailed to broad coding', by undertaking a distilling, cleaning, sorting and meta-coding phase. In this process, all codes were carefully read and double-checked to decide whether codes were renamed, shifted or merged. In building meta-codes, the central premise was to move beyond simple descriptions and to identify codes that fit into similar thematic categories. By doing so, the initial categories of the a-priori conceptual framework template (Phase 1) were revised in order to develop conceptual themes.

Phase 4: Clustering and Development of Themes

Phase 4 had the goal to cluster the meta-codes into meaningful, analytical concepts. Metaphorically, this phase resembles the process of 'taking a list of clothes that is sorted by type and creating an outfit of things that belong together'. This can be done by looking for relationships and patterns, which is analogous to factor analysis in quantitative studies (Ryan and Bernard, 2003). Cross-code patterns were identified and final analytical themes were built, by closely bearing in mind the study's *Research Objectives 3* and *Research Objectives 4* (see Chapter 1.4) towards developing an understanding of the *Technology Enhanced Tourist Experience*.

Phase 5: Refining and Validating Themes

The next phase refined and validated the themes before the final conceptualisation. All codes were double-checked and wording was refined. Moreover, transcript extracts were shared and discussed with fellow researchers to validate whether different individuals would obtain similar codes and themes. As a final step, coded references referring to negative and diminishing effects of ICTs on the tourist experience were moved to a separate NVivo file and stored for future analysis. The final coding structure encompasses a total of *1495 codes*, and embeds between 231 and 2230 single references (citations coded) in each meta-theme. A summary of the final coding structure is shown in Table 3-23 and in Appendix 11.

Table 3-23. Coding Strategy: Phase 5: Final Coding Structure

Meta-Themes	***Nr Source***	***Nr References***
Co-Creation	15	875
Experience Enhancement Process	15	2035
Technology	15	1088
Travel Stages	15	231
Technology Enhanced Tourist Experience	15	2230

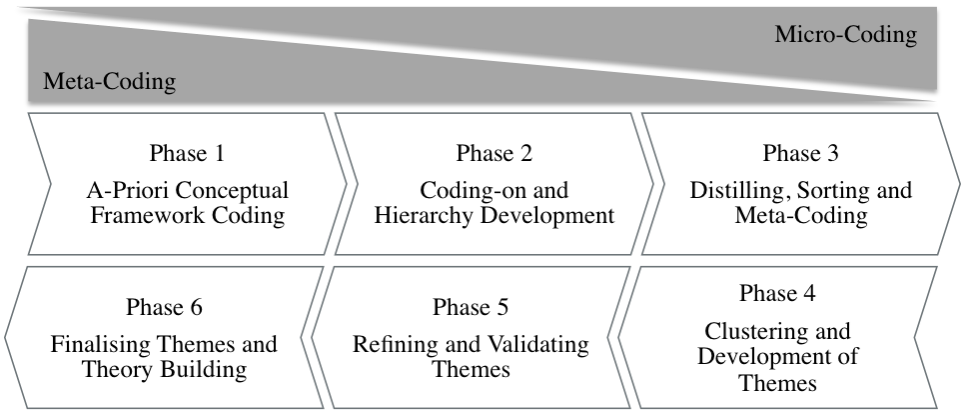
Source: Author

Phase 6: Finalising Themes and Theory Building

Having completed the coding and analysis process (Phase 1 to Phase 5), the final step was concerned with linking the analysis to the existing literature. This is particularly important in qualitative research, in which the literature plays a crucial role. It is not only essential in the early stages, but also critical in the analysis, to determine where the original contribution lies (Chenail et al., 2010). An on-going dialogue between the literature and the data analysis was therefore paramount to confirm, challenge and

identify similarities and differences (Holloway and Brown, 2012) in order to ultimately generate the distinct contribution of the study. Figure 3-7 depicts the qualitative analysis of Research Phase 3, entitled 'meta-micro coding process'. It adds particular value in that it showcases a structured qualitative coding process. Starting with template coding (Phase 1), it went on to the most detailed micro-coding (Phase 2 Coding-on), followed by sorting and merging (Phase 3), before clustering larger codes, refining, validating and developing the final themes (Phases 4, 5, 6). The thorough coding approach not only added rigour to the qualitative analysis, but also strengthened the validity of the findings and the final conceptual themes obtained.

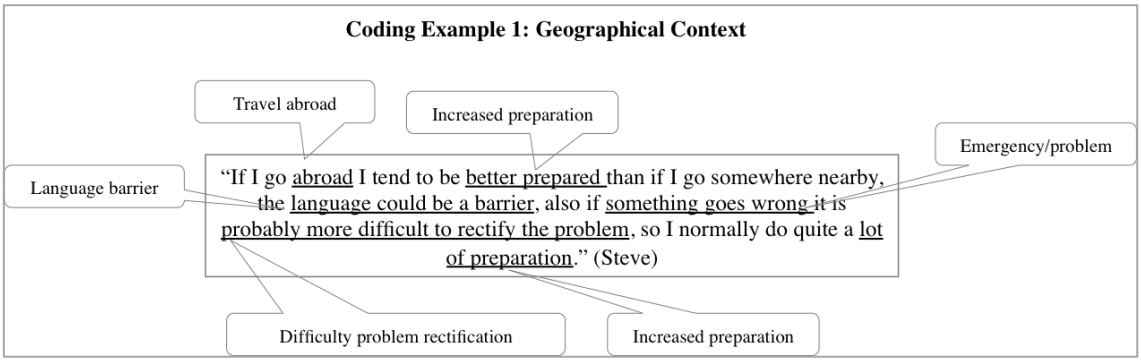
Figure 3-7. Meta-Micro Coding Process



Source: Author

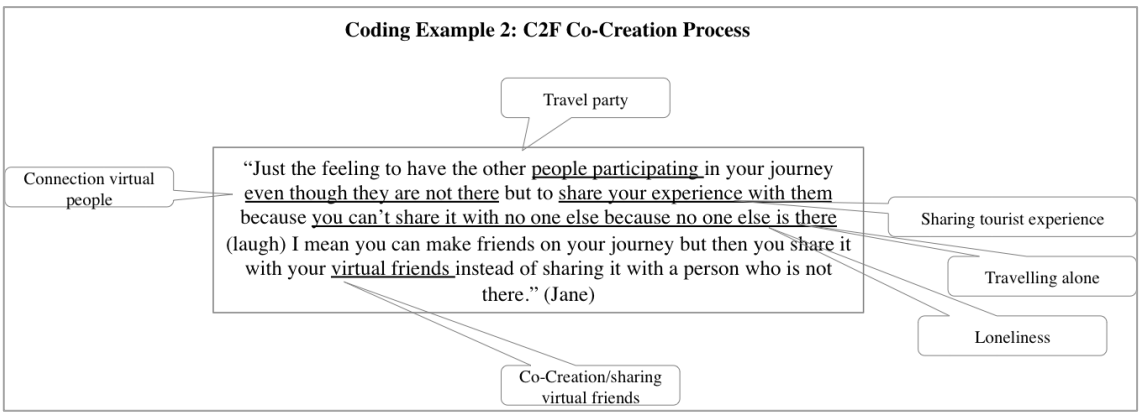
To provide a transparent demonstration of how the coding of experience narratives (paragraphs, sentences and single words) was conducted, three representative examples are outlined in Figure 3-8, Figure 3-9 and Figure 3-10. All three examples showcase transcript excerpts with underlined text passages and the corresponding codes assigned in speech bubbles. These examples are valuable in demonstrating the complexity of the narratives and multiple layers of meaning inherent. For instance, Coding Example 2 shows that certain statements were clearly assignable to one code, such as 'people participating' and 'share your experience'. Other expressions, by contrast, such as 'you can't share with no one else because no one else is there' contain critical information, which needs to be assigned to multiple codes, including 'sharing tourist experience', 'travelling alone' and 'loneliness' as an emotional state. What these examples highlight is the benefit of a micro-coding process for a rigorous qualitative analysis that allows extracting latent meanings inherent in experience narratives.

Figure 3-8. Coding Example 1



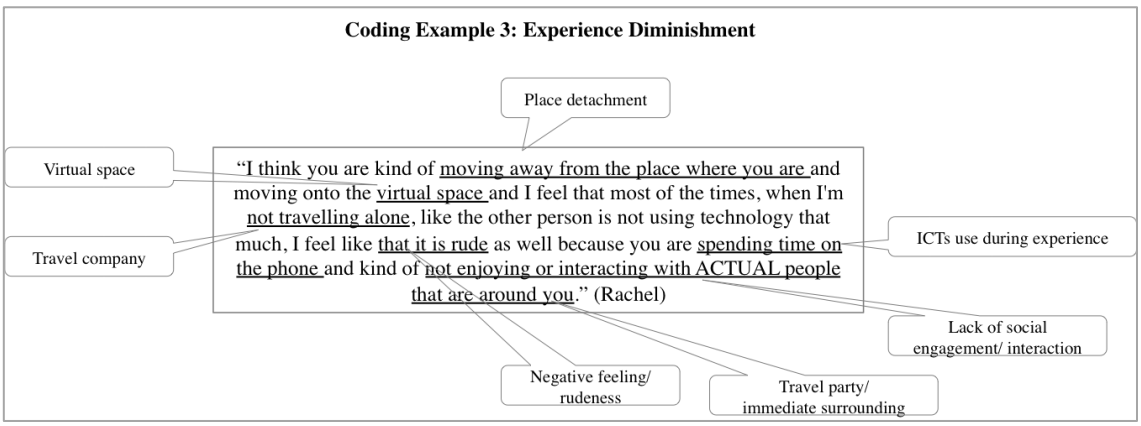
Source: Author

Figure 3-9. Coding Example 2



Source: Author

Figure 3-10. Coding Example 3



Source: Author

A transparent coding process is achieved when it is comprehensible how emerging themes have been obtained. A clear evidence of the coding and analysis process in practice is thus provided in Table 3-24. It shows a detailed outline of how verbatim quotes (raw transcripts) were coded in the six-stage process, through initial a-priori coding, coding-on, meta-coding and final theme development. Particularly interesting to

note is the difference between a-priori coding (1) and theme coding (6), which underlines the value of micro-coding to validate the accuracy of the content, refine codes and build conceptual themes. For instance, while the a-priori template suggested 'experience co-creation' as the main process, the last phase represents 'C2B co-creation' and 'C2F co-creation' as new themes. Having outlined Research Phase 3, the final sections of *Chapter 3 Methodology* turn to outline the limitations, reliability and validity as well as ethical, health and safety considerations.

Table 3-24. Overview of the Coding and Analysis Process

Transcripts ***Verbatim Quotes***	***1*** ***A-Priori***	***2*** ***Coding-On***	***3/4*** ***Meta-Coding***	***5/6*** ***Themes***
"If I'm feeling very satisfied with a café and the manager or the waitress asked me to put a good review on it, on TripAdvisor ok, I would put the review." (Teresa)	Experience Co-Creation	Value: Satisfaction Review Positive Review	Co-Creation Process Co-Creation Value	C2B Co-Creation
"I think it is the MOMENT, when you find something that intrigues you. And it probably intrigues your friends, if you have something nice and a nice meal or you are in a nice place, I think that it becomes automatic to me to share it, ok." (Sandra)	Experience Co-Creation	Co-Creation: Experience sharing friends	Co-Creation Process	C2F Co-Creation
"If I go abroad I tend to be better prepared than if I go somewhere nearby, the language could be a barrier, also if something goes wrong it is probably more difficult to rectify the problem, so I normally do quite a lot of preparation." (Steve)	Technology Use	Distance Language Barrier Planning and preparation	Geographical Context	Contextual and Situational Factors
"Of course the phone is very quick and convenient but the book is sometimes like if they also spend time to adjust it so in some case I cannot find the solution on the phone so I would come back to the book, yeah, you know what I mean." (Hanna)	Tech Experience Enhancement	ICTs Benefits Speed Efficiency Traditional Sources	Enhancement Intensity	Supplementary Technology Enhanced Tourist Experience
"I think I value most these unexpected opportunities and to be connected at all the time and everywhere, that is what I value most." (Martha)	Technology Enhanced Tourist Experience Factors	ICTs Value Unexpected Opportunities Connection	Serendipity & Unexpectedness & Discovery	Technology Enhanced Tourist Experience Factors

Source: Author

3.7 *Limitations, Reliability and Validity Considerations*

As an integral part of a reflective qualitative enquiry, it was paramount to critically reflect upon and acknowledge the limitations of this research. For this purpose, considerations of reliability and validity are central in the qualitative domain (Denzin and Lincoln, 1994; Holloway and Brown, 2012). Reliability represents a key notion relating to the consistency and repeatability of the results provided (Finn et al., 2000), while validity criteria are somewhat debated in qualitative research (Creswell, 2003). What common consensus however suggests as pivotal, is the researcher's reflective discussion of these notions, the commitment to seek rigour and transparency throughout the entire research process (Patton, 2002; Saunders et al., 2009).

In qualitative research, this can be achieved through reflexivity, contextualisation, reflection on the researcher's bias, prolonged engagement and thick description of the data, audit trails, member checks and triangulation (Denzin and Lincoln, 2005; Saunders et al., 2009; Holloway and Brown, 2012). In obeying these principles, this study has promoted a transparent discussion and a high level of reflexivity at the heart of its whole research process. This can be evidenced through clear justifications, transparent explanations and a critical reflection provided in the presentation of the entire body of this thesis. To complement these continuous considerations, this section offers a discussion of the specific limitations of the study, by drawing upon reliability, internal validity, external validity and transferability.

3.7.1 Reliability, Confirmability and Credibility

Reliability reflects the idea of repeatability, referring to the question of whether, if research was repeated, the same results would be obtained (Denzin and Lincoln, 1994). While the measures of reliability, consistency and replicability are dominant in quantitative studies, the notions of confirmability and credibility are considered as the more appropriate equivalents in the qualitative domain (Denzin and Lincoln, 2005). *Confirmability* regards the researcher's awareness of, and reflection on, their role, personal values and beliefs (Saunders et al., 2009) as well as the own subjectivity and potential bias within the study (Frochot and Batat, 2013). Reflections upon the underlying axiological belief-system within the pragmatist paradigm and the ontological critical realist lens adopted were thus critical.

Supported by this philosophical underpinning, the study sought to conduct a qualitative data collection and analysis in an *objective* as possible manner (Alvesson and Sköldberg, 2009), while allowing for the necessary closeness to identify and interpret subjective meanings in the data. To do so, the personal role and beliefs of the researcher were considered on a continuous basis. It was acknowledged that the researcher is knowledgeable in the area of the study and has a positive attitude to, and personal experience of, ICTs use in tourist experiences. Moreover, the focus on exploring the *positive* enhancement of tourist experiences has caused a partial representation of the subject, in that emerging negative and diminishing aspects of experiences were not considered in the analysis, but left for further research. Overall, such awareness was essential for a critically reflective approach and an unbiased process of data collection, analysis and interpretation.

To obtain *credibility*, transparency is one of the most critical factors to ensure that procedures are thoroughly documented and the replicability can be enhanced. This was of particular importance in this study, which is characterised by a high level of complexity, due to the adoption of a mixed-methods approach. To achieve credibility, necessary steps were taken to ensure a rigorous process from the beginning to the end of the research. Accordingly, all steps of data collection and analysis were transparently discussed, precisely described and documented. To further increase the reliability, three main parameters were implemented, including a) triangulation and crystallisation of the data, b) coding reliability checks of the analysis and c) the use of transparent codebooks, coding templates and audit-trails throughout all three research phases.

First, triangulation of the data was achieved by adopting three distinct qualitative methods. The combination of methods was critical, not only to inform subsequent research phases, but especially to allow for triangulation of the data and knowledge development towards the theoretical contribution of this study. By reflecting on the limitations of potential subjectivity within qualitative research (Glaser and Strauss, 1967) and the need to avoid bias in data interpretation and analysis (Frochot and Batat, 2013), several measures were taken. Coding reliability checks were conducted by consulting with individuals, external to the research process, to review sample transcript excerpts. This process was critical to validate the accuracy of the coding, reduce potential researcher subjectivity and bias, and most importantly, confirm whether similar coding structures were obtained. Third, the use of a codebook for the qualitative

analysis (Phase 1), pre-defined theoretical propositions for the multiple case study (Phase 2) and a clear audit-trail and memo of the coding strategy of the in-depth interviews (Phase 3) ensured that every single step of the analysis was documented transparently, to allow for a high level of reliability and repetition of the research.

3.7.2 Internal Validity, Trustworthiness and Construct Validity

Validity refers to the notion of whether findings are credible from the researcher's, the participants as well as the reader's perspective (Creswell, 2003). Validity is however widely debated in qualitative studies, with scholarship suggesting that the concept of *trustworthiness* should be at the heart of discussion in qualitative enquiries (Creswell, 2003; Denzin and Lincoln, 2005; Seidman, 2006; Holloway and Brown, 2012). In line with Yin (2003b) and Denzin and Lincoln (1994), this study ensured trustworthiness in three main ways. It a) presented a clear conceptual framework that guided all steps of the research, the literature review, methodological considerations and data analysis, b) explained what sampling methods were adopted in each phase of the research process and c) outlined precisely where and how data were derived from.

Construct validity primarily regards the conceptualisation of a concept at hand. In order to enhance the construct validity, several critical measures were taken in this study. First, the provision of a clear chain of evidence was provided to document how the initial research questions have led to the final conceptualisation and conclusion. Second, triangulation and crystallisation of the findings was obtained, by exploring the same phenomenon, i.e. the *Technology Enhanced Tourist Experience*, by collecting data from multiple sources of evidence (Denzin and Lincoln, 1994; Yin, 2003b).

3.7.3 External Validity, Generalisation and Transferability

External validity concerns the central question of whether results can be generalised beyond a particular study. Qualitative research is generally careful to make generalisations beyond the immediate findings or the specific context of the study. Rather, it seeks for theoretical or analytical generalisations (Eisenhardt, 1989; Bryman, 2008). This study adopted a qualitative mixed-methods strategy with a purposive sampling in the frame of a pragmatist paradigm, which limits the generalisability of the findings. As a result, it does not make any claims to generalise the findings to the wider

population or to wider technology-supported services settings, outside the tourism domain. Instead, it attempted to enhance the theoretical generalisation of the qualitative findings through several measures.

To ensure *analytical generalisation* of the case study research, Eisenhardt (1989) suggests a cross-case analysis of four to ten cases. Accordingly, a cross-case analysis of the five best-practice cases was performed, as a solid fundament for analytical generalisation. To strengthen the findings gathered in the in-depth interviews, detailed experience accounts, 'rich and thick descriptions' and 'vivid quotes' were used in support of the analysis. These experience narratives shall enhance the transferability and allow further research to evaluate, whether the findings are relevant to similar contexts (Holloway and Brown, 2012). Such contexts could include specific service settings in tourism, leisure or museum experiences, cruise experiences, events and festivals.

By following the suggestion to use a hierarchical coding system that reflects generic coding categories (Durrande-Moreau et al., 2012) (e.g. *experience co-creation*, *ICTs*, *contextual and situational factors*, *enhancement processes*) it was further attempted to make the findings accessible and enhance the possible *transferability* to broader contexts. As a result, the findings might also be transferable, while perhaps limited, to non-tourism service settings, in which ICTs enhancement and co-creation processes play a role. For instance, the code '*timelessness and real-time*' is not only one of the twelve *Technology Enhanced Tourist Experience* factors, but is generic enough to potentially be transferable beyond tourism. The findings could be relevant to wider service settings, including retail, shopping experiences, entertainment, public transport, e-commerce, finance and education. Through thick descriptions it becomes evident how this factor could be relevant for contexts, in which the use of ICTs for real-time information access, transactions and enhanced service experiences might play a role.

3.8 *Ethics, Health and Safety Considerations*

The careful consideration and evaluation of potential ethical issues as well as health and safety hazards constitutes an integral part of any research. The subject discussed, i.e. the *Technology Enhanced Tourist Experience*, was evaluated and deemed as a non-overly sensitive or challenging topic that would require any extraordinary precautionary measures. Despite the minimal risks expected, given the particular objectives of the study (see Chapter 1.4), the Bournemouth University guidelines for ethical and risk

assessment were followed. A risk assessment was conducted by means of the Bournemouth University Ethics Checklist, which was submitted and approved by the School's Ethic Review prior to data collection. The approved Ethics Checklist is included in Appendix 2. Ethics, health and safety considerations are discussed below.

Ethical Considerations

Considering the study's scope, aim and objectives, ethical issues were estimated as relatively low. Nonetheless several ethical considerations and corresponding actions have been taken in relation to a number of issues. These included to a) ensure the privacy and confidentiality of participants, b) provide participants with sufficient information prior to participation and c) protect personal data, full anonymity and confidentiality. In line with the common suggestions for privacy and confidentiality in social research (Denscombe, 2007; Bryman, 2008), informed consent was sought in Research Phases 2 and 3, from the case study representatives, in writing through emails, and the in-depth interview participants, through a written consent form, completed before the start of data collection.

The informed consent collection was preceded by an extensive instruction regarding the participation, consisting of information about the nature and purpose of the study, confidentiality and anonymity, the estimated length of the interviews as well as the possibility to refuse answering questions and withdraw from the study at any point in time. To ensure data protection and anonymity of the participants, several measures were taken. The audio-recording files were stored in a secure place and deleted from the recording device after successful transcription. In order to protect the anonymity of the participants, real names were concealed and pseudonyms were used for the subsequent data analysis and findings presentation.

Health and Safety

In order to ensure the personal health and safety of the researcher and the participants involved, several precautions were taken. First, it was ensured that the research was conducted in public settings, which provided a safe and comfortable environment for both the researcher and the participants. To keep any potential risks to a minimum, an on-going interview schedule was kept, including the recording of the date, exact time and location of the interview, participant names and contact details. With these

precautions in place, no major health and safety hazards were encountered throughout the research process.

3.9 *Chapter Summary*

This chapter has discussed the methodological approach adopted in this study. Pragmatism with an ontological critical realist lens was used as the overarching research paradigm underpinning the qualitative mixed methods strategy. In order to address the aim and five research objectives (Chapter 1.4), a three-phase qualitative mixed methods strategy, a novel methodology proposed by Morse (2010a/b) was adopted. It consisted of a qualitative content analysis (Qual I), a multiple case study (QUAL II) and semi-structured in-depth interviews (QUAL III). This comprehensive methodology is particularly valuable on two levels. In line with the theoretical assumptions of the S-D logic and experience co-creation (Ramaswamy, 2011; Lusch and Vargo, 2014), a combination of company case studies and consumer in-depth interviews was employed. This led not only to exploring a comprehensive two-fold company-consumer actor perspective, but also allowed for a holistic knowledge development of the *Technology Enhanced Tourist Experience.* Before turning to the three findings chapters (Chapters 4, 5, 6), their presentation and structure is outlined for readers of this thesis first.

3.10 *Presentation of the Findings*

This section discusses the structure of the subsequent findings chapters, *Chapter 4, Chapter 5 and Chapter 6,* which present the heart of this study. The presentation of findings can generally be structured in several ways, based on research stages, research objectives and emerging themes. In this study, the findings gathered in each method of the qualitative mixed-methods approach (Qual I, QUAL II, QUAL III) were integrated and presented according to the underlying *Research Objectives* (Chapter 1.4). This structure was deemed as most valuable because a) the research objectives are closely linked with the conceptual framework, which also guided data collection and analysis, and b) it allows for a logical presentation of the single finding components towards the development of the holistic theoretical contribution of this study, the *Technology Enhanced Tourist Experience*.

The findings are structured in *three chapters*, each contributing to one specific aspect in building an understanding (status quo, co-creation process, enhancement process, factors, outcomes) of the *Technology Enhanced Tourist Experience*. The first findings *Chapter 4* presents the tourist company and tourist consumer *actor perspective* on the *co-creation process* of tourist experiences through ICTs. *Chapter 5* goes on to present the tourist experience *enhancement process*, explaining the processes required for a tourist experience to be enhanced through ICTs. *Chapter 6*, as the final findings chapter, moves from the processes to the specific *factors* that constitute the tourist experience and the *Technology Enhanced Tourist Experience*. All headings and sub-headings are representative of qualitative themes emerged in the three qualitative analyses. To guide the reader through the chapters, graphical elements (arrows) are provided at the beginning of each major chapter and section, highlighting the section headings and indicating the current location within each chapter.

Findings *Chapter 4*, integrates the case study findings of QUAL II and the consumer in-depth interviews of QUAL III, in order to shed light on the co-creation process from a two-fold actor perspective (RO3). Building upon the S-D logic and co-creation lens (Vargo et al., 2008; Ramaswamy, 2009a; Ramaswamy, 2011), it reveals not only the process of how tourist experiences are co-created, but specifically explains the actors involved, the resources (ICTs) integrated and the experience and value outcomes emerged. Based on the analysis of QUAL II, the findings first present companies in their role as co-creation actors, ICTs as a resource, co-creation processes and outcomes. The analysis of QUAL III reveals four emergent types of co-creation processes in which consumers engage, named ‘C2B co-creation’, ‘C2C co-creation’, ‘C2F co-creation’ and ‘C2L co-creation’.

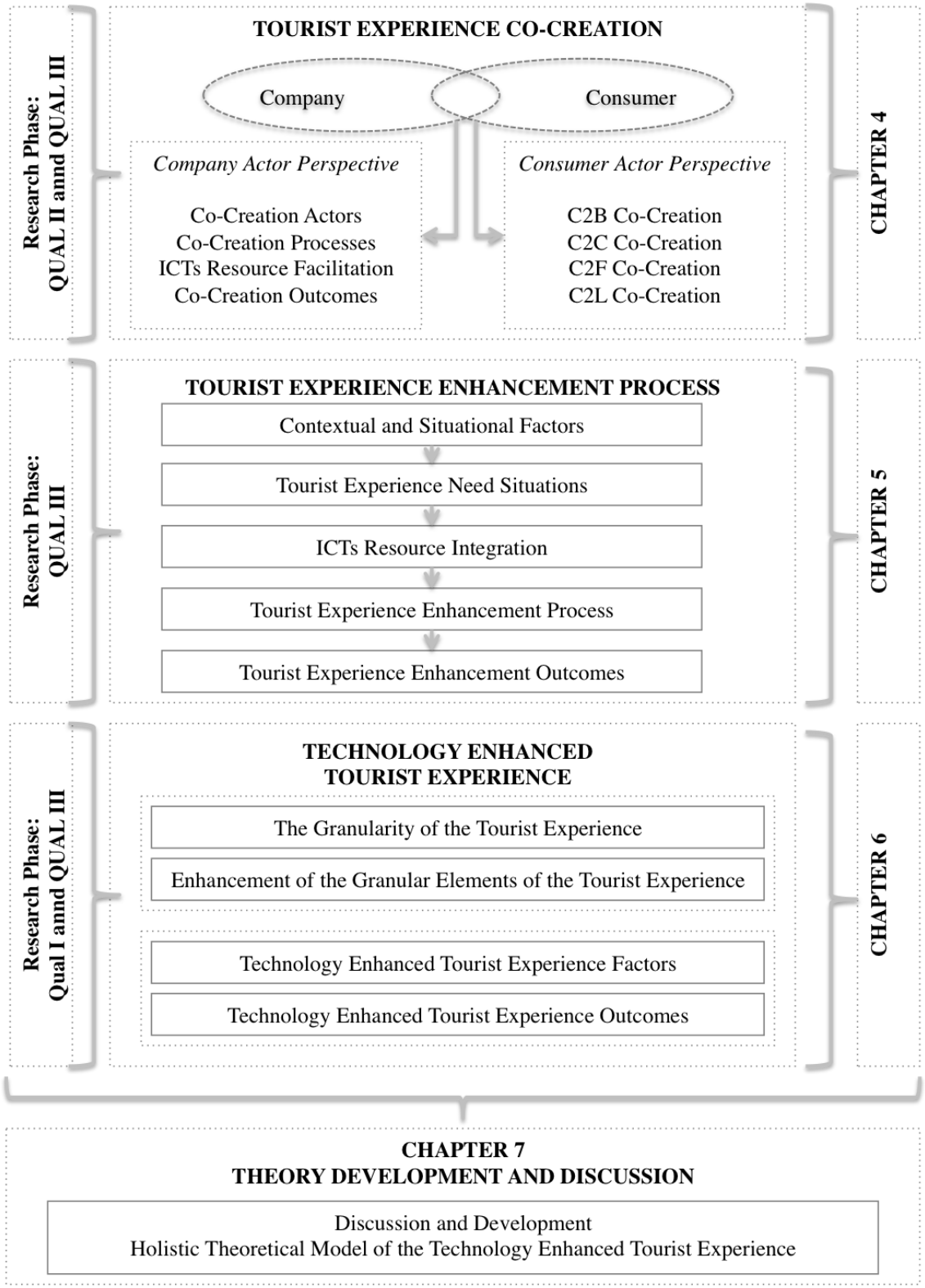
The second findings chapter, *Chapter 5* presents the findings gathered from QUAL III and focuses on the tourist experience enhancement process (RO3). The step-by-step analysis reveals the contextual factors that condition the experience enhancement. These include contextual and situational factors, tourist experience need situations and ICTs resource integration. It then sheds light on the enhancement process of specific tourist activities and the travel stages, before revealing the existence of different enhancement intensities and outcomes through an ‘ICTs resource integration intensity’ and an ‘experience enhancement hierarchy’. The chapter concludes by conceptualising a

'Tourist Experience Enhancement Process Model' that holistically depicts the elements constituting this process.

The third findings chapter, *Chapter 6*, presents the findings from Qual I and QUAL III. It first reveals the granular elements of the tourist experience (RO2) identified in the qualitative content analysis. It then discusses the change of these elements through ICTs, by revealing three levels, including enhancement, maintenance and diminishment. The final section presents the core contribution of the study (RO4), in that it depicts the twelve factors that determine the *Technology Enhanced Tourist Experience* and the related experience outcome factors. A twelve-factor model is presented, which is further expanded and discussed in Chapter 7.

Chapter 7 Theory Development and Discussion, integrates the findings from all three research phases and discusses them in relation to previous literature. While the findings are discussed and interpreted throughout Chapters 4, 5 and 6, Chapter 7 provides a more extensive arena to conceptualise the findings and accentuate how these are embedded within, or call to revise, the literature. The first section revisits the conceptual framework (Chapter 2.5) and develops a holistic theoretical model of the *Technology Enhanced Tourist Experience* (RO5). The following section conceptualises individual elements of the *Technology Enhanced Tourist Experience*. Specifically, theoretical assumptions pertaining to experience co-creation, the factors and travel stages of the *Technology Enhanced Tourist Experience* are discussed in relation to previous work. Figure 3-11 illustrates the structure of the subsequent findings and discussion chapters.

Figure 3-11. Structure of the Findings



Source: Author

CHAPTER 4: FINDINGS: TOURIST EXPERIENCE CO-CREATION: A COMPANY-CONSUMER ACTOR PERSPECTIVE

Chapter 4, the first of three findings chapters, presents the tourist experience co-creation process from a two-fold company and consumer actor perspective. It does so by integrating the qualitative findings from the analysis of the multiple case study (QUAL II) and the consumer in-depth interviews (QUAL III) and by addressing Research Objective 3. It provides an in-depth understanding of how *tourism companies* and *tourist consumers* as resource-integrating actors co-create tourist experiences through ICTs. While being recognised as equal actors in this process, for clarity of presentation, the company perspective is introduced first, followed by the consumer perspective. This structure adds value in that it allows to first understand the role of the company in facilitating the environment that allows tourist consumers to co-create experiences (Vargo and Lusch, 2011). The findings then reveal the role of the tourist consumer, not only with the company, but with a wider actor network (Grönroos, 2008).

Research Objective 3

To explore the role of ICTs in enhancing the tourist experience and the experience co-creation process from a two-fold company-consumer perspective

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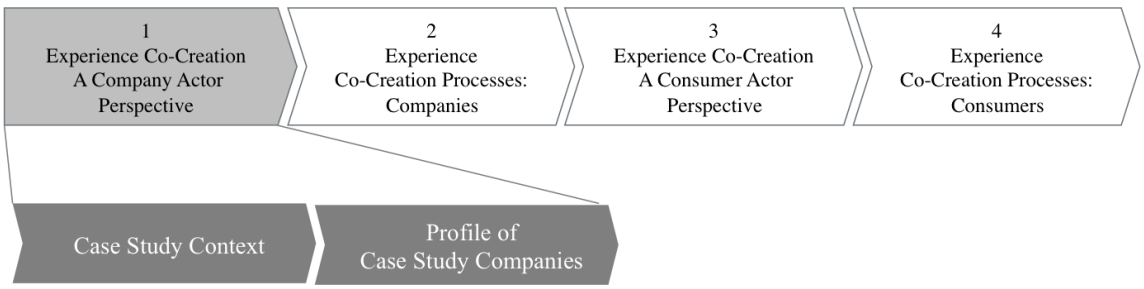
The chapter is structured into two main sections, shedding light on 1) the *company actor perspective* and 2) the *consumer actor perspective*. Within these sections, a comprehensive profile of the actors is introduced and the respective experience co-creation processes are presented. In the first two sections (4.1 and 4.2) the profile of the tourism case study companies is presented and the technology enhanced co-creation processes is discussed. Specifically, the detailed role of companies and the integration of ICTs are discussed, highlighting the types of ICTs used, ICTs ownership, operation and the intensity of ICTs integration. As a final theoretical and practical contribution of the company perspective, a nine-field experience co-creation matrix is developed, which depicts that varying levels of co-creation and ICTs integration lead to different experience outcomes.

The second part of the chapter (sections 4.3 and 4.4) provides a comprehensive outline of the consumer sample profile, revealing the socio-demographic background, ICTs

integration and use characteristics of tourist consumers. The analysis of the experience co-creation process reveals four distinct types of co-creation through ICTs. These were conceptualised into consumer-to-company (C2B), consumer-to-consumer (C2C), consumer-to-friends-family (C2F), and consumer-to-local (C2L) co-creation. The chapter concludes with a summary of the findings, while Discussion Chapter 7 conceptualises the overall experience co-creation and offers an extensive discussion of the findings in relation to experience co-creation and the wider S-D logic discourses.

4.1 *Experience Co-Creation: A Company Actor Perspective*

This section presents the company perspective on experience co-creation through ICTs. First, the case study context is introduced to understand the overall contextual setting in which the cases are embedded. This is followed by the profile of the case study companies, which are presented in form of descriptive individual case reports. These reports shall offer a practical understanding of how the *Technology Enhanced Tourist Experience* is created. By describing the case context and the case profiles individually, relevant theoretical and practical insights are revealed on the company's role as an actor, facilitator and resource integrator of tourist experiences. This is because a "*meticulous description of a case can have an impact greater than almost any other form of research report*" (Gilham, 2000, p.101). A cross-case analysis follows, in which all cases are integrated and discussed (section 4.2). The cross-case analysis adds value in that it highlights the commonalities and differences of the five cases and builds a conceptual understanding of the experience co-creation process.



4.1.1 Case Study Context

The five case studies can be considered as situated within the context of tourism and the services industry at large. Specifically, the case studies represent a diverse spectrum of tourism sectors, which encompass tourism destinations management organisations, hospitality and restaurant services and online tourism platform providers. The wide range of sectors represented was critical to allow for a maximum case variation (Flyvbjerg, 2011). The analysis of these diverse cases adds value on two levels. It first reveals practical insights into co-creation about each case and its associated sector. Second, it allows for a cross-case analysis, which integrates the perspectives from a variety of sectors for a holistic understanding of how technology enhanced co-creation takes place, from an integrated company perspective.

Having knowledge about the specific context of each case is critical to evaluate the findings through its detailed descriptions and decide, whether and to which extent the findings can be considered as transferable to similar contexts. Table 4-1 provides an overview of the context and the main characteristics of the case studies. It highlights the case study companies, the corresponding industry sector, the dominant types of ICTs used, the travel stage in which experiences are co-created and the company's role in this process. The individual case profiles of the five companies are presented next.

Table 4-1. Case Study Company Profile

N	*Case Study*	*Industry Sector*	*Type of ICTs*	*Travel Stages*	*Company Role*
1	PixMeAway	Online Destination Search	Picture-based travel inspiration search engine	Pre	Provide website for creation of virtual pre-trip experience
2	Inamo Restaurant	Restaurant	E-Table interactive ordering system	During	Facilitate dining experience through eTable technology
3	VisitBritain	Destination	Social media and consumer-generated LBS	Pre During Post	Enhanced co-creation and engagement; mobile, user-generated application;
4	Hotel Lugano Dante	Hospitality	Happy Guest Relationship Management Tool	Pre During Post	Develop technology-platform for staff; collect guest information;
5	Sol Melia Group	Hospitality	ME system social media engagement	Pre During Post	Enhanced guest experience through social media person-to-person interaction between staff and guests

Source: Author

4.1.2 Profile of Case Study Companies

Five best-practice companies were analysed in the frame of the qualitative multiple case study. This section offers descriptive case reports that highlight how each company

realises a *Technology Enhanced Tourist Experience*, which illuminates the best-practice nature of each case and the types of ICTs used for tourist experience co-creation. The thick description of the cases offers the reader a clear outline and 'paint the picture' of how exactly current experience co-creation and enhancement through ICTs unfolds in tourism practice.

4.1.2.1 PixMeAway

PixMeAway is a unique picture-based search engine with the scope to allow for an intuitive travel inspiration and planning. The key idea behind the development of this online tourism platform is to support the pre-travel experience. It is based on the premise that people have been searching for travel inspiration and ideas by using keywords in the past. Due to the fact that people might have difficulties in expressing their travel-related needs in words, PixMeAway has been developed, as a platform to provide an image-based search engine. In this context, tourist consumers use the tool, by first selecting appealing travel motifs and defining their travel personality. Based on their defined preferences, destinations matching these criteria are suggested. The images portrayed on the website are supported by an underlying algorithm that captures the tourist's emotions, through which ideal tourist destinations can be determined and suggested. In that it allows for a more graphical, engaging and playful way to search for a possible destination, the digital solution has the purpose to assist in and enhance the early stages of travel inspiration and planning. PixMeAway currently provides information on 120,000 places to visit and things to do around the world.

4.1.2.2 Inamo Restaurant

Inamo Restaurant is a technology-enabled restaurant establishment, offering a digitally supported dining experience. The key concept of the company is to combine high-quality cuisine with a charming dining experience and a timely service in a vibrant and technology enhanced atmosphere. In this respect, Inamo Restaurant has pioneered in introducing a unique concept, in which the dining experience is moved to the control of the consumers. The core concept of the restaurant is the interactive digital ordering system. This system, developed by E-Table™, uses a combination of touchpads and overhead projection, which allows consumers to see the food and drinks menu projected onto the table surface. Beyond these possibilities, the system also includes further features that consumers can control. For instance, it enables consumers to change the table clothes according to the current mood and preference, watch in real-time the food

being prepared in the kitchen through a webcam, explore the local neighbourhood in search of activities to undertake after the restaurant visit or order a cab home. Despite the dining experience being fully digitalised, members of staff are always available, if help is needed. The innovative ICTs solution by Inamo represents a unique example of how to integrate technology into the restaurant environment. With the digital table at the core of the restaurant, it transforms the traditional dining experience, by providing consumers with a holistic immersive technology enhanced experience.

4.1.2.3 VisitBritain

VisitBritain is the national tourism agency in charge of marketing Britain as a tourist destination on a global basis and developing Britain's visitor economy. Besides traditional marketing and management of Britain as a tourism destination, social media and mobile applications have become a major part of facilitating and enhancing the experience of tourists before, while and after visiting the country. For instance, VisitBritain's Love UK Facebook page provides an extensive platform of social engagement and co-creation. Through the social media involvement, VisitBritain has managed to attract a large number of fans from all around the world and to build relationships between overseas tourists and UK visitor attractions. It has also managed to promote Britain as a tourist destination, by creating a digital 'global guest book' that facilitates consumer comments to create an enhanced tourist experience in all stages of travel. Moreover, the mobile LBS application Top 50 UK Places has represented a novel approach to consumer empowerment and co-creation through consumer-generated content. VisitBritain has facilitated the development of the 50 UK Places list, which is no longer based on company-based recommendations, but generated based on consumers' Facebook location check-ins to determine the best attractions.

4.1.2.4 Hotel Lugano Dante

Hotel Lugano Dante, a 4 star hotel located in Lugano, Switzerland, represents a current best-practice case for integrating ICTs to facilitate technology enhanced guest experiences in the hotel context. The hotel has developed a unique approach to experiences with a concept, called 'HGRM', Happy Guest Relationship Management. Building on the principles that experiences are the number one reason to choose a hotel, the Hotel Lugano Dante has implemented a digital customer relationship management tool to enhance guest experiences. HGRM constitutes a unique platform that amalgamates all interactions of staff and guests in one system, not only on-site, but

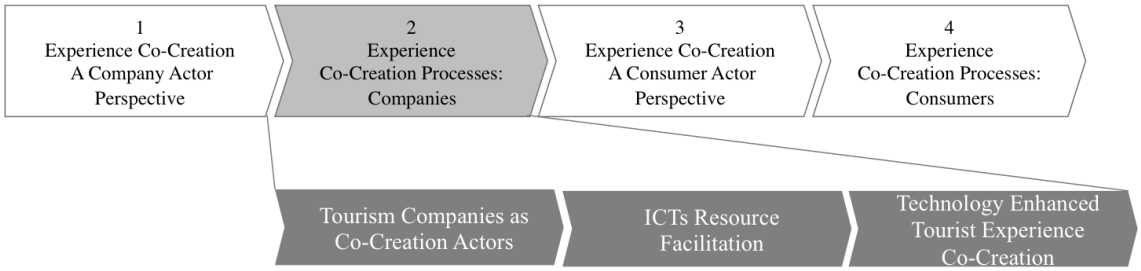
throughout the entire guest's journey, before, during and after their hotel stay. The key idea is to engage and co-create enhanced experiences with guests at multiple service touch points. Based on their research, in one year, more than 750,000 service interactions take place between consumers and all hotel departments. The HGRM tool provides the necessary functionalities to manage this vast number of interactions, by using guest information to facilitate personalised experiences at every interaction. As such, the tool is based on a massive database that allows collecting valuable information about the guest, including not only personal information, such as name and contact details, but also buying patterns, personal preferences and behaviours. The platform is used throughout all hotel departments with the scope to collect and retrieve guest information and improve the quality of the internal communications and to personalise encounters and create individually tailored services and experiences.

4.1.2.5 Sol Meliá Group

The Sol Meliá Group represents a leader of the hospitality industry in guest engagement through social media. With a number of original campaigns and initiatives conducted through various social media platforms, the company has recognised the value of creating active conversations with its consumers. One of the key principles followed is to co-create experiences together with the their guests. Based on the assumption that guests are connected to the Web, through the computer, tablets or mobile phones, Sol Meliá have used the power of social media to engage the connected consumer at every step of the journey. The development of mobile applications for the hotel stay has represented a prime example to enhance the local engagement, by facilitating and providing guests with real-time information, maps, directions and activities to make the stay easier and more pleasant. As one of its core innovations, Sol Meliá has developed the so-called ME Ecosystem. It represents an interactive platform recognising the value of person-to-person engagement. It facilitates co-creation among several actors of Sol Meliá managers, employees, guests and Twitter-followers, who become interconnected in experiencing the hotel and brand. The key premise underpinning the person-to-person engagement is that the hotel has a human voice, one that is represented by human beings interacting with guests in a two-way dialogue.

4.2 *Experience Co-Creation Processes: A Company Actor Perspective*

Following the presentation of the single case reports, this section reveals the findings emerged from the cross-case analysis. It had the purpose to conceptualise co-creation by shedding light on how companies take the role as co-creators, integrate ICTs as resources and facilitate a technology enhanced experience creation. The analysis aimed at developing an understanding of the full complexity of experience and value creation and the multiple actors operating in the service system (Durrande-Moreau et al., 2012). Specifically, the multiple case study has uncovered a number of aspects, namely 1) what *actors* are involved, 2) what *ICTs resources* and how these are integrated and 3) how co-creation through ICTs leads to different *experiences outcomes*. The knowledge contributions of the cross-case analysis are conceptualised in Figure 4-2, which illustrates the components of experience co-creation from a company perspective.



4.2.1 Tourism Companies as Co-Creation Actors

As one of the first objectives of this analysis, it was important to explore the role of the companies as co-creation actors, to specifically understand *who is involved* in co-creating and facilitating tourist experiences through ICTs. The findings indicate that in all five cases, the company primarily embodies the role of the facilitator of the ICTs solution used. In co-creating tourist experiences through ICTs, it was found that several actors are empowered and involved, which can be divided into two domains, namely 1) individuals in the company domain and 2) individuals in the consumer domain.

With respect to the former, the analysis indicated that beyond the macro-company level, individual employees become empowered facilitators of using ICTs to co-create and enhance experiences. In particular, the case of Sol Melia provides such evidence. Sol Melia seems to particularly enforce the idea of social engagement and networks, by taking co-creation from the company management level to single members of staff. In using the ME Ecosystem, employees are encouraged to engage and participate in one-

to-one interactions and co-create with hotel guests and connected consumers and fans. The core principle behind this involvement is to facilitate more personal, human encounters online by promoting individual actors. This provides evidence for a radical shift away from the classical conception of having 'the company' as a centralised and anonymous platform to 'speak' with its customers. Rather, it is the individual employee who is empowered to integrate ICTs to co-create and facilitate experiences. This view seems to be in line with emerging views presented by Ramaswamy (2009b), who recognised the pivotal role of employees in frontline customer engagement.

The findings further indicate that the Hotel Lugano Dante practices a similar approach towards employee empowerment. The analysis suggests that co-creation through ICTs is taken to all management and operational levels throughout the hotel. It is evident that the use of the HGRM platform empowers staff in all departments to play an active role in the creation of the guest experience. Each member of staff throughout all hotel departments is equipped with a mobile tablet or smartphone, providing the 'cockpit', from which the HGRM can be accessed and used. The distinct philosophy and value proposition behind this approach is that not only a few dedicated members of staff are connected. Rather, all departments play an equally important role to co-create every service touch point, wherever the guest might be encountered. As every member of staff can access the HGRM tool from the mobile devices whenever and wherever needed, more direct and personalised encounters between employees and guests can take place. By implementing the HGRM platform, guests and staff are more connected and closer than ever before, not only on-site, but also in the pre-travel and post-travel stages.

For instance, before the arrival, guests are offered the access their personal 'MyPage' website. Here members of staff are introduced, providing guests with information about their names, job position and profile pictures. This allows future guests to (pre)-familiarise themselves with the members of staff, who will take care of them from check-in to check out. In the on-site stage, the platform allows employees to retrieve and use the necessary information about their guests (e.g. names, length of stay, drink preferences and newspapers), in order to co-create more personal experiences on the spot. Similarly, in the post-travel stage, members of staff play an important role as they are empowered to stay in touch with former guests and personally thank them for their stay through the MyPage site. At the core of this co-creation practice is the notion of reducing the anonymity of the conventional service encounter and placing the focus on

meaningful and personal one-to-one relationships. In this context, ICTs play a mediating role as a resource that is integrated to assist personal encounters and to create experiences, in which guests feel more recognised at every touch point of their journey.

In contrast to the foregone examples, the case of Inamo Restaurant provides a different picture of *how* the company co-creates and *who* are the main actors in this process. The analysis revealed that through the major technology-mediation by means of the eTable, co-creation with individual members of staff is not increased, but actually reduced and deliberately taken to a minimum. In fact, while social engagement occurs on the social media platforms of the Inamo restaurant online, the main experience stage in the restaurant predominantly occurs without human interaction. This is because the eTable technology, through a digital ordering system, has the scope to place the restaurant experience in control of the consumers and to give them the tools to do so.

As a result, the number of encounters between consumers and members of staff are reduced. The only 'human touchpoints' occur at the arrival, when food is served, plates are cleared from the table and the payment is made at the end. Due to the dominant technology facilitation, the experience focuses entirely around the interaction with the table technology, assigning human engagement per se a less dominant role. In this context, the company primarily takes the role of the ICTs resource facilitator, rather than the co-creator of interactive encounters.

With regard to co-creation actors in the consumer domain, the analysis revealed that companies do not only engage with the tourist consumer as main co-creation opponent, but also seek to involve several actors in the wider connected consumer network through ICTs. For instance, the cases of VisitBritain and Sol Melia indicate that co-creation through social engagement platforms occurs in a larger network of individuals, as companies (and their employees) engage with the tourist consumer, fans and brand advocates. While the main interaction appears to occur with the tourist consumer (pre/during/post travel), these companies demonstrate to increasingly seek facilitation of platforms that encourage consumer communities to engage among themselves.

In summary, the cross-case analysis demonstrated that the company functions as a main actor in the co-creation process, but in addition, several nuances on a micro-level unfold. The analysis provided evidence that the company as an entity is no longer the only actor involved in co-creation encounters. Individual employees are increasingly

encouraged and empowered to act as resource integrators, who facilitate enhanced experience co-creation through ICTs in direct service encounters. This is in line with recent work, which suggests in a service (eco)systems view, that within the larger network of resource integration, individual employees are the ones who interact at a micro-level (Akaka et al., 2013). The findings add to this perspective in advocating that employees can be seen as resource integrators, who use their own resources (e.g. skills, knowledge) (Vargo and Lusch, 2011). But beyond that, they use ICTs platforms (e.g. HGRM, eTable, ME Ecosystem) as operant resources to act upon, and enhance, their own operant resources of skills and knowledge. This confers them the capacity to facilitate more personal encounters (e.g. by guest information retrieval through HGRM) and allows for enhanced value co-creation in the context of the experience encounter.

4.2.2 ICTs Resource Facilitation

Based on the theoretical propositions (Chapter 3, Table 3-10), it was of interest to uncover *what* ICTs are used in experience co-creation by tourism companies. This is important to understand the specific role of ICTs as an operant resource (Vargo and Lusch, 2011), which becomes integrated by companies to facilitate enhanced experience co-creation processes. The cross-case analysis adds to the understanding of ICTs as a resource, by shedding light on 1) what *types of ICTs* are integrated, 2) the nature of *ICTs ownership and resource integration* and 3) the *role and use intensity of ICTs.*

Types of ICTs

One of the first goals of the analysis was to extract the specific ICTs that are used by companies. This knowledge was critical not only to get a better understanding of the nature of ICTs used in co-creation. It was also critical to identify possible differences between ICTs identified in the literature review (Chapter 2.3.4) and the specific ICTs implemented in contemporary tourism best-practice. Despite a range of technologies mentioned in the literature, such as the Web 2.0, social media and mobile applications (Tussyadiah and Fesenmaier, 2009; Fotis et al., 2011), the cross-case analysis revealed that a range of interesting ICTs, specifically aimed at experience creation and enhancement, come into use. The cases provide evidence that the spectrum of ICTs include interactive websites, interactive ordering systems (eTable technology), company-consumer engagement and relationship management platforms (HGRM), interactive mobile platforms (iPads), diverse social media channels (Facebook and

Twitter) and mobile applications (destination applications). This evidence suggests that a multiplicity of tools have been developed or adopted. Table 4-2 provides an overview of the types of ICTs in use and their inherent purposes for experience facilitation.

Table 4-2. Overview of ICTs Integration Case Study Companies

ICTs	***Main characteristics and purpose***
Interactive Website	User involvement, management, control, adaptation to personal preferences
Interactive Ordering System	User involvement, management, control, adaptation to personal preferences of table ambience, independence of service process
HGRM Platform	Company-consumer engagement platform, connection, synchronisation of data and information, convergence of all interactions between consumers and company
Social Media	Platforms for engagement, guest relationship development, sharing of experiences
Mobile and LBS applications	User generated content, mobile applications to connect on the move

Source: Author

ICTs Ownership and Resource Integration

A further key endeavour with respect to ICTs use was to develop an understanding of how ICTs are integrated. In analysing the five cases, the notions of ICTs ownership and resource integration emerged, which seem to unfold on several levels. These include 1) the provision of company software and applications as resources to be acted upon through the consumers' hardware integration, 2) the provision of company ICTs hardware for consumers on-site and 3) the internal operational use of ICTs by the company and its members of staff.

The first dimension emerged indicates that co-creation occurs through a resource facilitation between companies and consumers. For instance, PixMeAway offers an online resource for consumers to act upon in search of inspiration and destination suggestions. Likewise, VisitBritian and Sol Melia provide social media and engagement platforms, mobile applications and destination LBS, which consumers can use through the integration of their own hardware devices. It was found that ICTs seem to be used for two purposes, namely the direct engagement with the company and the non-direct engagement with the company, by using its resources. Social media platforms were primarily used as tools for consumers to ask information about the hotel, destination and the upcoming stay, to get in touch with the company, to share experiences with the company and other consumers online and to identify the best attraction to visit in the destination. This is in line with S-D logic studies (Grönroos, 2008), which point to the role of the company as a resource facilitator or direct co-creator of interactions.

Diversely, the case of the Inamo Restaurant demonstrates the provision of ICTs hardware and software owned by the company that is operated (resource integrated) by consumers within the specific service setting. With technology at the centre of the experience, it takes a dominant role and can be understood as an operant resource that tourist consumers use to control, manage and personalise their dining experience. In a different vein, the case of the Hotel Lugano Dante shows that the integration of ICTs to enhance experiences mainly happens on an internal basis, in the background of operations. While the HGRM MyPage website is used by companies and consumers to interact, the HGRM tool is only used by employees through mobile devices on-site. Employees integrate the tool as a resource for knowledge and information about guests, update emerging information and synchronise it across the database for retrieval by other employees. This is in line with studies, e.g. Benckendorff et al. (2005), which suggests that technology can be facilitated in the backstage, where it is hidden from the tourist, or in the front stage, where it is overtly integrated for experience creation.

Overall, the findings provide evidence for the need of a differentiated view of ICTs integration in experience co-creation from a company perspective. Specifically, the notions of ownership and resource integration of ICTs play a role. The types of ICTs identified reveal that ownership can be company-centric and consumer-centric in terms of the origin of the technological resource to be integrated. For instance, the Inamo eTable technology is a company-owned physical resource to be used by the consumer. In contrast, the Top 50 UK LBS application is a consumer-centric resource that consumers can independently use and act upon with further resources (e.g. consumer smartphone to download, access and use company-facilitated LBS).

The case analysis of the Hotel Lugano Dante further suggests that ICTs are not necessarily integrated by both actors. Rather, ICTs might be used by the firm only in the background of operations to facilitate experiences. These insights add an interesting aspect to recent discourses attempting to develop a better understanding of technology as a resource in the S-D logic. Current discourses suggest that the integration of technology, and the value emerging from it, is contextual and might vary in the micro, meso and macro levels of the context (Akaka and Vargo, 2014). In line with recognising contextual differences on various levels, the analysis proposes the need for a differentiated understanding of technology as a resource in terms of ownership, integration and use. Technology might be integrated and used conjointly (social media),

but can also be integrated by one actor to facilitate a better service, experience and value creation for the benefit of the other actor (HGRM platform).

Role and Use Intensity of ICTs as a Resource

The cross-case analysis of the use of ICTs for experience co-creation has highlighted that resource integration of ICTs occurs to varying extents. The emerged findings indicate the need to distinguish between two main types of technology intensities for experience enhancement. Technology can take the form of 1) a supplementary resource to assist and support the tourist experience and constitute 2) the central resource, based on which the core tourist experience can emerge.

The analysis indicates that ICTs can serve in the capacity of a complementary resource, which can be integrated if necessary and desired, but does not constitute an integral part of the experience. VisitBritain, Sol Meliá and the Hotel Lugano Dante represent examples, in which the destination and hotel product, service and experience offered remain the core value propositions of the company. In fact, the destination and hotel offerings remain unaltered, but ICTs can be integrated as a resource to co-create through social media in pre/during/post stages of travel (ME Ecosystem, MyPage) or facilitate information gathering of the best attractions on-site (Top 50 UK places). It appears that the extent to which ICTs are integrated, is determined by the tourist. The tourist experience can be created entirely without ICTs, but might be enhanced, more personalised or socially engaging, if tourists allow for ICTs come into play.

In analysing two further cases, it appeared that ICTs can also take a more prominent role within the tourist experience. PixMeAway, in allowing for high interactivity, provides an innovative way to enhance the early stages of travel inspiration and planning, which thus becomes the experience itself. In this case, technology is not merely integrated as an additional resource, but the pre-travel experience of becoming inspired and finding interesting places, emerges from the integration of this resource itself. Similarly, the Inamo Restaurant represents an example, in which technology becomes the essential resource for an experience to occur. The eTable technology enables consumers to see the food and drinks menu projected onto the table surface, to interact with the technology and change its settings according to personal preferences. In this specific context, the technology at hand is not just an additional resource. Instead, an interactive and unique dining experience emerges from the integration of the

technology itself. To exemplify, while a conventional wooden table might provide an operand resource that requires action taken upon to add value, the eTable is a core operant resource that allows for distinct experiences and value to emerge.

Based on these findings, there is need for a more distinguished understanding of the nature and conceptualisation of ICTs as an operant resource in experience and value creation. In fact, while recent work (Wieland et al., 2012; Akaka and Vargo, 2014) has started to deepen the understanding of technology as a resource, the findings add further insights. The S-D logic proposes that resources, such as technological artefacts, themselves do not carry value, but allow creating value-in-use (Vargo and Lusch, 2008).

Most importantly, the findings have indicated that technology is not only a resource with the capacity to create and add value to an experience, but can essentially be the core resource that allows for novel experiences to be created through its use. The case study analysis provides exploratory insights into technology integration in the context of tourism, which could be the basis for further research, specifying the nature, role and intensity of ICTs within service and experience co-creation research. Based on the cross-case analysis, Table 4-3 provides an overview of the characteristics of ICTs resource integration in tourist experiences from a company-perspective.

Table 4-3. Overview ICTs Resource Facilitation Characteristics

Factor	***Sub-Factor***	***Characteristics***
Ownership and Integration	Company	The company owns ICTs and provides these to the tourist as a resource for experience creation (applications, platforms, websites, table technology)
	Consumer	The consumer owns ICTs and integrates company's software for own experience creation (mobile devices, smartphones, social media)
	Company Internal Operations	ICTs are integrated as resources and operated in the background of the operations for experience creation (HGRM platform, personalisation systems)
Intensity	Core Technology	ICTs constitute the substantial element for the creation of the experience
	Supplementary	ICTs are implemented to enhance a mainly non-technology experience, the use is additional

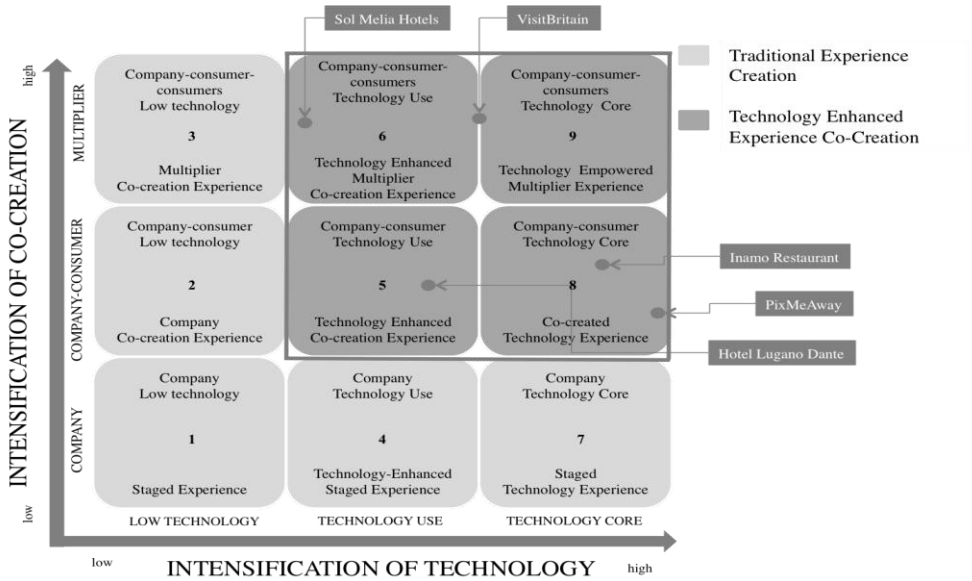
Source: Author

4.2.3 Technology Enhanced Tourist Experience Co-Creation

The findings from the cross-case study analysis indicated that different co-creation actors become involved and ICTs resource integration occurs to different extents. In outlining these diverse scenarios from a variety of industries, including the tourism, hospitality, tourism online platforms and destination sector, it became evident that not one single form of co-creation occurs, but rather a spectrum of co-creation takes place. In the final part of the analysis, it was thus the goal to analyse experience co-creation through ICTs for a holistic understanding of the concept from a company-perspective. To this end, the identified co-creation processes were conceptualised into a nine-field matrix. Drawing upon the cross-case analysis, the findings were depicted in terms of two dimensions, *co-creation* and *ICTs integration*. This has resulted in an experience typology matrix, classifying nine major types of experiences, shown in Figure 4-1.

The matrix contains two axes, namely intensification of co-creation (vertical axis) and intensification of technology (horizontal axis). While the best-practice case studies seem to represent the highest levels of technology enhanced co-creation, a matrix was developed that would also allow to holistically recognise lower levels of ICTs integration and co-creation endeavours of companies, respectively. The model is composed of a vertical axis that recognises three levels of co-creation, including company-centric staging, company-consumer co-creation and multiplier co-creation. The horizontal axis comprises three levels, including low technology integration, technology integration to enhance the experience and technology integration as the core of the experience. In analysing the five best-practice case studies, it was found that all five cases can be ascribed to the four upper right fields (5, 6, 8, 9) reflecting a high intensity of ICTs integration and co-creation. This study, in attempting to offer a holistic perspective, embraces the lower ends of the axes and discusses nine fields to provide for a complete understanding of traditional (light grey fields) and new enhanced (dark grey fields) tourist experiences. To develop these categories, insights were drawn from the foregone review of the experience economy and experience co-creation, established in Chapter 2.2, and the findings from the case studies in Research Phase 2.

Figure 4-1. Matrix Technology Enhanced Tourist Experience Co-Creation



Source: Author

1-4, 7: Traditional Tourist Experience: These experiences, identified on the lower end of the continuum, are characterised by limited levels of ICTs use and co-creation. Examining the horizontal axis, these include staged experiences, as prevalent in the experience economy (Pine and Gilmore, 1998), which are determined by a company-centric experience delivery with technology facilitation to different extents (see fields 1, 4, 7). The vertical axis represents experience co-creation (see fields 1, 2, 3) as proposed by Prahalad and Ramaswamy (2004c), reflecting an increasing level of co-creation between companies and consumers (2) and among consumer communities (3), while ICTs are only integrated to a minor extent in facilitating these processes.

5: Technology Enhanced Co-creation Experience. This category is characterised by an increased ICTs integration to facilitate experience co-creation. The Hotel Lugano Dante can be associated with this type of experience, as the HGRM platform is integrated as an instrument to co-create with consumers and enhance the hotel experience. Enhanced co-creation thereby predominantly occurs on a company-consumer level. It allows for a high level of guest involvement, by asking guests for information and empowering them to co-create their experiences. As such, it is distinct from a technology enhanced staged experience (4), in which a company uses technology to assist the delivery of staged experiences, without enabling the consumer to become involved.

6: Technology Enhanced Multiplier Co-creation Experience. This category presents an increased level of co-creation that is facilitated by ICTs. Sol Meliá represents this type

of experience co-creation, due to its use of social networking technologies to facilitate co-creation with multiple stakeholders. Rather than only allowing for company-consumer interaction through ICTs, it includes the hotel, its single members of staff, other consumers, followers and fans, who all engage and become part of the dialogue online. By doing so, a multiplier effect of co-creation through ICTs is achieved, making it distinct from a technology enhanced co-creation experience (5).

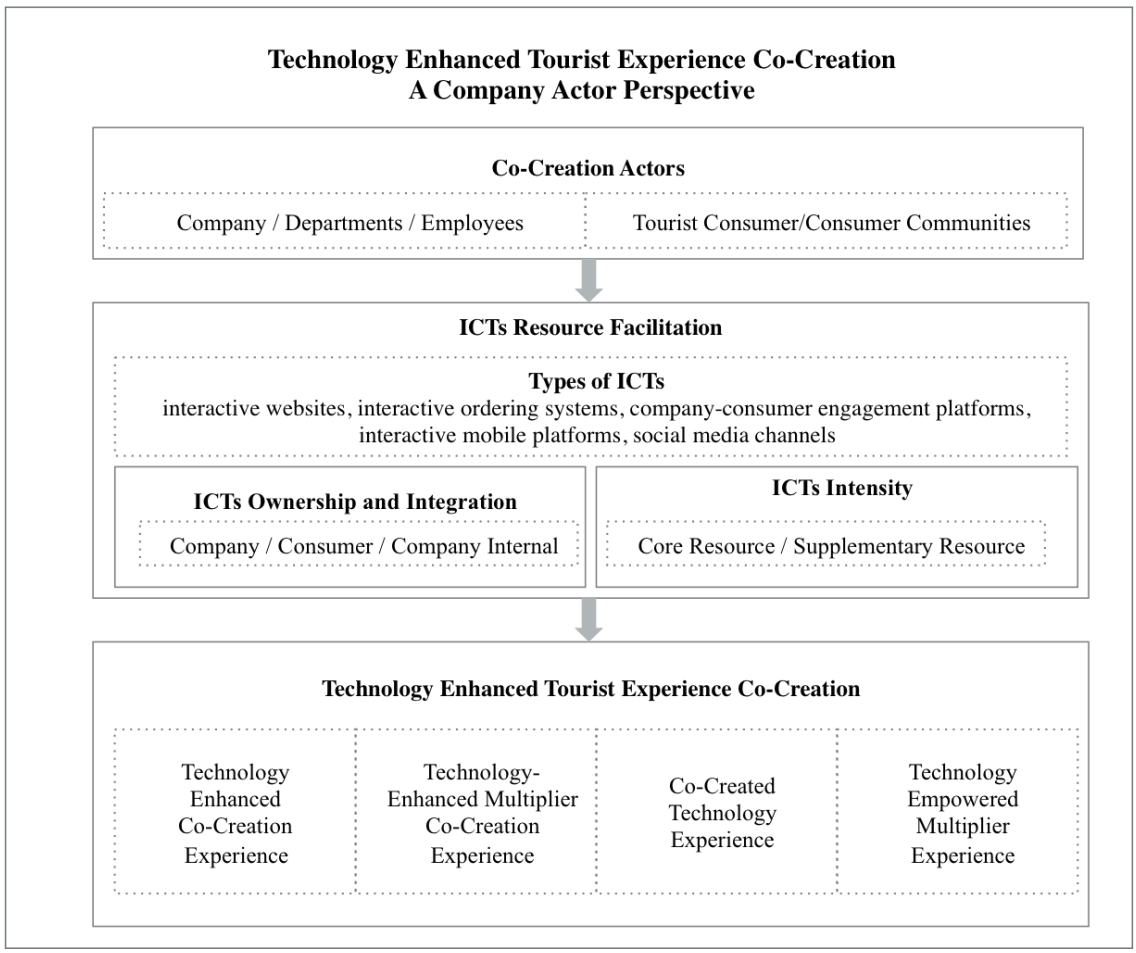
8: Co-created Technology Experience. This category indicates an increased level of ICTs integration as the core of the experience. As noted in section 4.2.2 above, ICTs are integrated not only as an additional resource but constitute the core resource that allows for an experience to emerge. The Inamo Restaurant and PixMeAway facilitate this type of experience co-creation. By providing the eTable technology and the online picture-search engine platform, ICTs resources are facilitated by the company to co-create a novel technology-centred experience. This makes it distinct from a staged technology experience (7), in which technology is merely functional and lacks the characteristic co-creation elements of consumer empowerment and interactivity.

9: Technology Empowered Multiplier Experience. This experience type requires the integration of ICTs as the core resource of a tourist experience, while allowing for multiple levels of co-creation through ICTs at the same time. VisitBritain represents a highly intense experience on both levels of technology and co-creation. In this example, ICTs are not the core part of the experience. However, the pervasive integration of different social engagement channels and mobile applications allow consumers to co-create throughout all three stages of travel, which renders VisitBritain close to becoming a fully technology-empowered multiplier experience.

In summary, the findings from the case studies have revealed that ICTs integration and multiple levels of co-creation are key parameters to allow for a *Technology Enhanced Tourist Experience* and value to emerge. Depending on the relative intensity of these elements, the findings have provided evidence to recognise not only one single *Technology Enhanced Tourist Experience*, but to differentiate between several types as an outcome of co-creation. Considering the potential of Web 2.0 technologies and social networking tools (Tussyadiah and Fesenmaier, 2009), the levels of co-creation can be intensified in multiple spaces and between multiple parties, offering a high value proposition to the tourist consumer.

In order to graphically summarise experience co-creation through ICTs from a company perspective, Figure 4-2 has been developed. Based on the evidence from the case studies, it depicts the elements that characterise the co-creation of a *Technology Enhanced Tourist Experience*. It demonstrates the specific co-creation actors involved, the components of ICTs resource facilitation and the distinct experiences that emerge through this process. The subsequent sections 4.3 and 4.4 shift the focus on experience co-creation through ICTs from a consumer perspective.

Figure 4-2. Tourist Experience Co-Creation: A Company Perspective



Source: Author

4.3 *Experience Co-Creation: A Consumer Actor Perspective*

Having illuminated the company-centric actor perspective on experience co-creation emerged in Research Phase 2, this section now turns to experience co-creation from a consumer perspective, by presenting the findings from the qualitative in-depth interviews of Research Phase 3. The findings provide a detailed understanding of the consumer's role in experience co-creation. First, a profile of the sample participants is presented. The first part outlines the socio-demographic profile of the participants, by

highlighting the socio-demographic background, the profile of ICTs use and the perceived importance of ICTs use within the tourist experience. The second part discusses the transferability of the participant profile to the wider population and compares their characteristics to early technology adopters. Section 4.4 presents the results of the experience co-creation processes and reveals four distinct co-creation processes, in which tourists engage by integrating ICTs in the tourist experience.

4.3.1 Socio-Demographic Profile of Participants

The socio-demographic profile of the interview participants (Research Phase 3) is outlined in Table 4-4. The overall sampling procedure was purposive, due to the need to identify individuals based on specific criteria in terms of ICTs use in the tourist experience. A balance of gender and a diversity of age groups, education levels and nationalities was however sought to ensure a fairly equal distribution of interview participants from diverse backgrounds. The specific sample distribution in terms of nationality, education, age and gender, and its transferability, is discussed below.

Table 4-4. Consumer Participant Profile

Participant Nr.	*Participant*	*Nationality*	*Education*	*Age*	*Gender*
1	Laura	Dutch	A-Levels	20-29	Female
2	Jane	German	Postgraduate	20-29	Female
3	Martha	German	Undergraduate	20-29	Female
4	Veronica	Chinese	Postgraduate	40-49	Female
5	Sam	British	A-Levels	20-29	Male
6	Paul	British	Postgraduate	60-69	Male
7	John	Indonesian	Postgraduate	30-39	Male
8	Sandra	Greek	Postgraduate	20-39	Female
9	Teresa	Indonesian	Undergraduate	20-39	Female
10	Andrew	Pakistan	Postgraduate	30-39	Male
11	Dan	Greek	Postgraduate	40-49	Male
12	Aaron	Italian	Postgraduate	30-39	Male
13	Steve	Belarus	Postgraduate	30-39	Male
14	Rachel	German	Postgraduate	20-29	Female
15	Hanna	Vietnamese	Postgraduate	30-39	Female

Source: Author

The sample indicates a fairly equal distribution of female and male participants, with a division of 46.7 % male participants and 53.3% female participants. The age distribution is balanced from participants in their early 20s to their mid-60s. A tendency towards participants representing the age group of 20-29 years (46.7%) and 30-39 years (33.3%) was evident, with the average age determined as 31.66 years. In terms of nationalities, a high diversity of participants was obtained, representing ten different nationalities within the sample. The sample reflects participants on a wide spectrum of educational levels, ranging from A-Levels to postgraduate qualifications, with the majority of participants (73.4%) having obtained a postgraduate degree.

Table 4-5. Socio-Demographic Distribution Participant Profile

Measure	***Item***	***Frequency***	***Percentage***
Gender	Male	7	46.7 %
	Female	8	53.3 %
Age	<20	0	0.0%
	20-29	7	46.7%
	30-39	5	33.3%
	40-49	2	13.3%
	50-59	0	0.0%
	60-69	1	6.7%
	>70	0	0.0%
Nationality	Belarus	1	6.7%
	British	2	13.3%
	Chinese	1	6.7%
	Dutch	1	6.7%
	German	3	20.0%
	Greek	2	13.3%
	Indonesian	2	13.3%
	Italian	1	6.7%
	Pakistan	1	6.7%
	Vietnam	1	6.7%
Highest Level of Education	Compulsory School	0	0.0%
	A-Levels	2	13.3%
	Undergraduate Degree	2	13.3%
	Postgraduate Degree	11	73.4%
Total		**15**	**100.0%**

Source: Author

At the beginning of the interview, several questions were asked to identify the participants' general ICTs usage. Table 4-6 provides an overview of the participant profile of ICTs use, indicating social media and mobile application use. In line with the sampling criteria, all participants reported to use social media regularly, with 46.7% using them on a daily basis and 53.3% using them even several times a day. The findings indicate a high mobile application use, with participants using mobile apps on a weekly (6.7%), daily (46.7%), or several times a day basis (40%). Only one participant was identified as an outlier, as he reported to use social media, but never uses mobile

applications on his smartphone. With regards to the specific use of smartphones, it was identified that participants use a variety of devices, including the iPhone, Samsung, Blackberry and HTC. Some participants stated to own more than one mobile smartphone device. The majority of participants also reported to possess a number of electronic devices, which they use for travel purposes, including computers, laptops, iPods, tablets and e-book readers.

Table 4-6. Participant Profile of ICTs Use

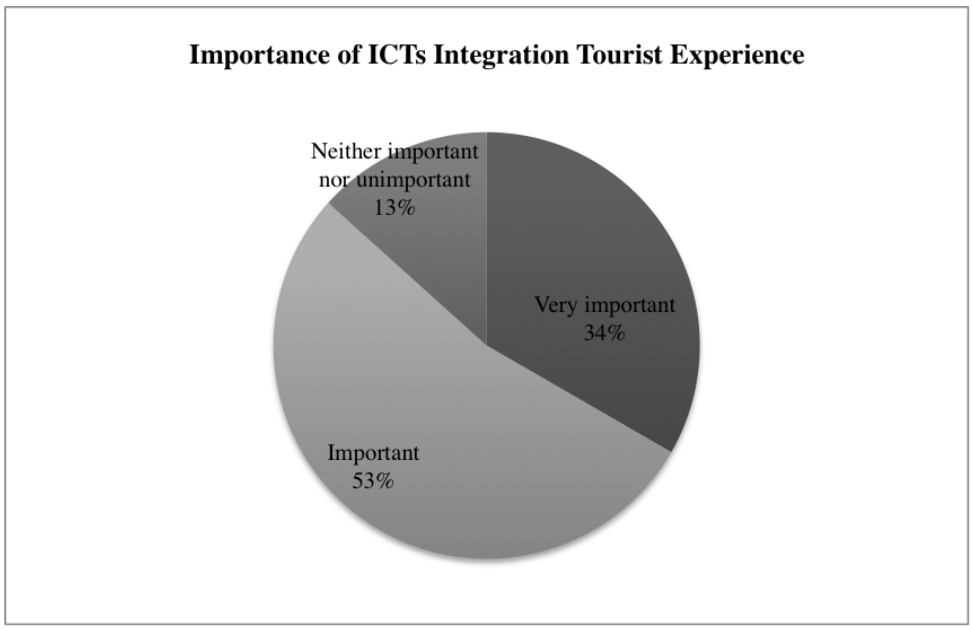
Participant	*Smartphone*	*Social Media Use*	*Mobile App Use*	*Importance ICTs Travel*	*Importance ICTs Co-Creation*	*Importance TETE*
Laura	Samsung Galaxy	Daily	Daily	3	3	3
Jane	iPhone	Daily	Daily	4	3	4
Martha	iPhone	Daily	Daily	4	4	5
Veronica	iPhone	Daily	Daily	4	4	3
Sam	Samsung Galaxy	Daily	Daily	4	3	4
Paul	iPhone	Daily	Daily	5	4	5
John	Blackberry Torch	Several times a day	Never	3	3	3
Sandra	HTC	Several times a day	Daily	5	4	5
Teresa	HTC	Several times a day	Several times a day	5	5	5
Andrew	Samsung	Several times a day	Several times a day	5	5	5
Dan	Blackberry	Several times a day	Several times a day	4	3	4
Aaron	iPhone	Several times a day	Several times a day	4	4	4
Steve	Samsung Galaxy	Several times a day	Weekly	5	3	5
Rachel	Blackberry	Daily	Several times a day	4	2	3
Hanna	iPhone	Several times a day	Several times a day	4	4	4

Source: Author

In addition to their use of ICTs, participants were asked three enquiries about their perceived importance of a) ICTs use within travel, b) ICTs use for experience co-creation while travelling and c) the overall importance of having a *Technology Enhanced Tourist Experience*. Participants were asked to rate these factors on a five-point Likert Scale, from one, being the least important, to five, being the most important. With respect to overall ICTs use within travel, the findings indicate that it is perceived as very important (34%), important for the majority of participants (53%) and neither important nor unimportant for the remaining 13%. None of the participants

described the use and integration of ICTs in the context of the tourist experience as unimportant (see Figure 4-3).

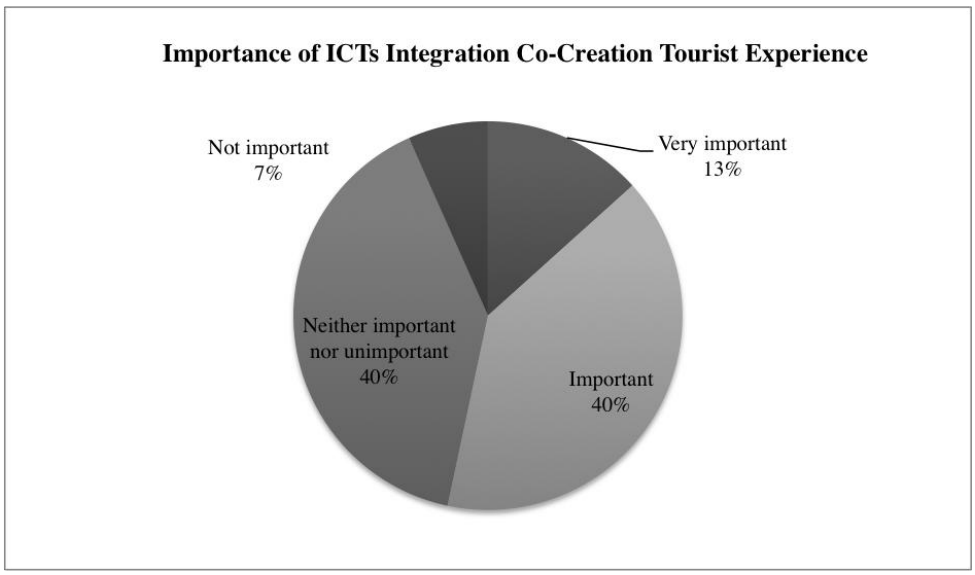
Figure 4-3. Importance of ICTs Integration Tourist Experience



Source: Author

With respect to ICTs integration for experience co-creation within the tourist experience, the data show that it is considered very important by 13%, while 40% consider its integration important, 40% perceive it as neither important nor unimportant and 7% consider it as not important.

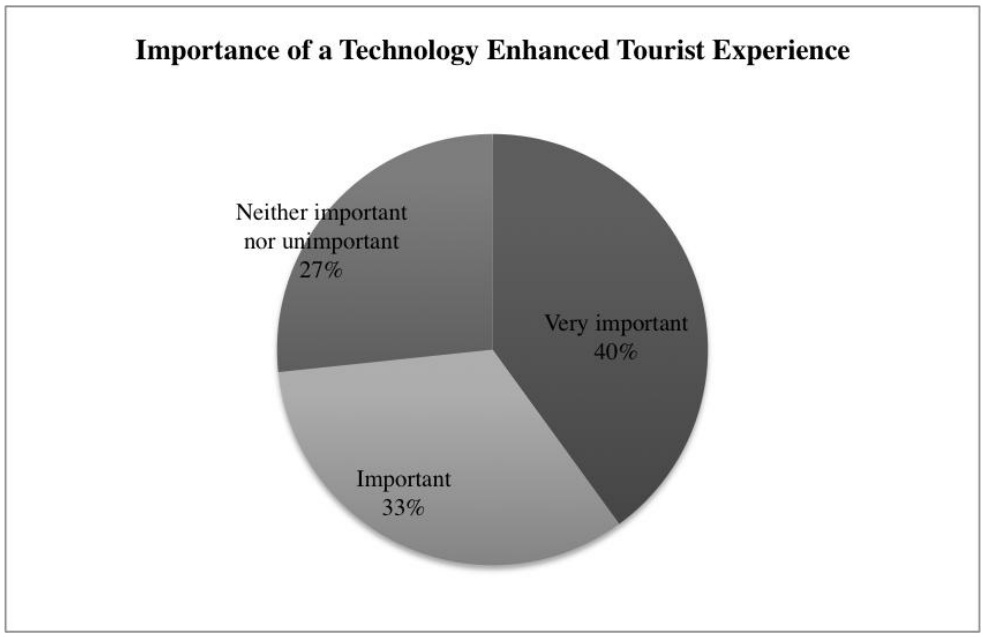
Figure 4-4. Importance of ICTs Integration Co-Creation Tourist Experience



Source: Author

The third question pertained to participants' perceived importance of having a *Technology Enhanced Tourist Experience*. The results indicate that 40% of the participants consider it very important, while 33% consider it important and the remaining 27% consider it neither important nor unimportant. None of the participants perceived it as unimportant, indicating a high overall inclination towards considering the use of ICTs important within the context of the tourist experience.

Figure 4-5. Importance of Technology Enhanced Tourist Experience



Source: Author

4.3.2 Transferability of Participant Profile

The sample profile presented above (section 4.3.1) provides a background of the participant characteristics and their estimation of ICTs importance, while the qualitative in-depth findings are presented in Chapters 4, 5 and 6 in subsequence. The extraction of the ICTs usage distribution was important, as it provides a useful indication to evaluate the possible transferability of the findings to similar contexts. The background of the interview participants could help other researchers understand, whether, and to what extent, the findings might be applicable to consumers in different contexts with similar socio-demographic characteristics, traits and ICTs use.

Based on the sample profile, the characteristics of the participants can be considered similar to those of '*early adopters of technology'*. Grounded in the principles of Everett Rogers, who coined the term early adopters, this group represents a proportion of the population, which is inclined to adopt products early on, before these are accepted by an

early majority, late majority and laggards at last (Rogers, 2003). While there is no consensus on what percentage of the overall population can be considered as early adopters, a recent report from the US suggests that a total of 29% of households can be ascribed to that segment. The technology adoption cycle does not only refer to the adoption of new products, buts also explains the use behaviour of early adopters. Early adopters are characterised by a lifestyle that focuses much on technology, the online world and media consumption. Beyond that, they show a high degree of technology ownership, with people owning four cross-platform devices on average (Rich, 2010).

In examining the socio-demographic profile of the sample participants in Table 4.5 above, their characteristics seem to reflect the generic profile of early adopters, which are determined by higher social status, level of education and, often, higher income (Rich, 2010). The sample profile indeed represents a high proportion of postgraduate education (73.4% of the participants). In terms of age distribution, research indicates that due to the increasing consumer diversity, age is no longer a clear indicator of early adopters. Technology-savvy users encompass a wide age range, from baby boomers to young adults and Generation Y (Lennon et al., 2012). However, a recent study by Pew Internet identified that more than eight in ten Internet users (aged 18-29) use social networking sites, compared to seven users (aged 30-49) and half or less than half of the users (50-64 and beyond), suggesting a relationship between higher age and decreasing ICTs use (Lennon et al., 2012). This also seems to be reflected in the present sample profile, with the majority of participants representing the age groups 20-29 years (46.7%) and 30-39 years of age (33.3%).

While the findings are obtained from a limited sample size, it can be suggested that the sample represents consumers, who can be defined as early adopters within the wider population. The sample consists of people, who are characterised by a high technology ownership and use of social media and mobile applications, which are extensively adopted to enhance tourist experiences. The findings in the subsequent chapters (4, 5 and 6) can thus be considered, to some extent, transferable to early adopters within the population, who use ICTs for tourist experiences to date. Considering the progressive nature of the technology adoption cycle (Rogers, 2003), the findings can be predicted to gain even more relevance to the wider population, as the late majority and laggards adopt ICTs more extensively for travel in the future. The next section turns to reveal the findings on experience co-creation processes, from a consumer actor perspective.

4.4 *Experience Co-Creation Processes: A Consumer Actor Perspective*

Experience co-creation can be understood as a process of reciprocal experience and value creation (Vargo et al., 2008; Ramaswamy, 2011; Chathoth et al., 2013). Within the services marketing and management domain, only a dearth of studies to date have focused on how value is created in practice (Durrande-Moreau et al., 2012). Most importantly, only a few studies have explored co-creation practices in a technology-facilitated environment (Schau et al., 2009). Within the context of consumer experience creation, Verhoef et al. (2009) suggest that we also know little about how consumers interact among groups of families, peers and friends, an aspect of critical importance for a better comprehension of experience co-creation for theory and practice.

The findings reveal novel insights in that they a) identify distinct co-creation processes in the tourist experience through ICTs and b) illuminate how these occur among several actors. Overall, the findings corroborate with the earlier S-D logic and co-creation literature. In fact, they confirm the existence of co-creation processes between companies and consumers (Prahalad and Ramaswamy, 2004b; Vargo and Lusch, 2004), and also identify co-creation between consumers and consumers (Baron and Harris, 2010; Heinonen et al., 2010; Rihova et al., 2014). Drawing on the analysis of the in-depth interviews, the findings however go beyond the existing literature, in that four distinct technology enhanced co-creation processes emerge. These were conceptualised and labelled as consumer-to-company (C2B), consumer-to-consumer (C2C), consumer-to-friends-family (C2F), and consumer-to-locals (C2L) co-creation.

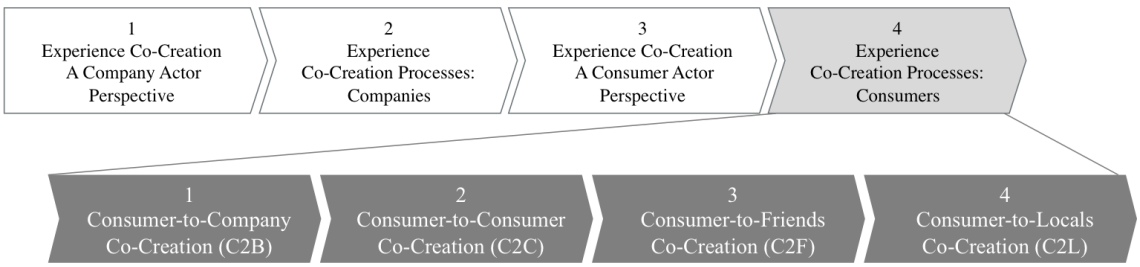


Table 4-7 provides an overview of the outcome of the NVivo analysis, presenting the distinct processes, a brief definition and the number of sources and references obtained. The distribution of sources and references reveals C2F as the most dominant form of co-creation (363 references), followed by the 'classic' C2B co-creation (254). While C2C and C2L co-creation are represented by a slightly lower number of references, these emerged clearly as distinct processes, requiring a separate conceptualisation. The findings of each co-creation process are presented below, from sections 4.4.1 to 4.4.4. These shed light on the actors involved and the characteristics of co-creation, as well as the value and possible limitations of each type. The discussion of these elements addresses the need for a more practical understanding of how co-creation occurs (Verhoef et al., 2009; Durrande-Moreau et al., 2012) and contributes to a better understanding of co-creation in a technology facilitated tourism context.

Table 4-7. Tourist Experience Co-Creation Processes

Co-Creation Processes	***Definition***	***Nr. Sources***	***Nr. References***
C2B Co-Creation	Co-creation with companies and employees	14	254
C2C Co-Creation	Co-creation with other consumers	12	105
C2F Co-Creation	Co-creation with friends and family	15	363
C2L Co-Creation	Co-creation with locals	8	110
Total		**15**	**832**

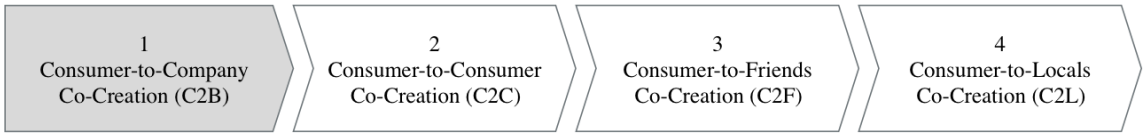
Source: Author

4.4.1 Consumer-to-Company (C2B) Co-Creation

Consumer-to-company co-creation (C2B) has emerged as the first co-creation process from the qualitative in-depth interviews. As a two-fold process, it is in line with the early principles of experience co-creation, recognising service providers and consumer engaging in a conjoint creation of experiences and value (Ramaswamy and Gouillart, 2008). The findings go beyond the recognition of firm-consumer interaction (Prahalad and Ramaswamy, 2004c), in that they offer insights into the specific processes that occur within C2B co-creation in the context of tourism when ICTs come into play.

One notable conceptual, and thus terminological, difference of this study is that co-creation between the consumer and the company is not framed as *B2C co-creation*, as suggested by previous work in the field (Prahalad and Ramaswamy, 2004c). Rather, the term *C2B co-creation* is coined, which recognises a reversed order of companies and consumers. The term offers a more adequate expression, which acknowledges the centrality of the tourist consumer as the main actor and resource integrator (Vargo and

Lusch, 2008) of the own tourist experience (Binkhorst and Den Dekker, 2009). In line with Grönroos and Helle (2010), experience co-creation evolves around the consumer, while the company might be merely invited to become a co-creator of the experience.



The findings reveal that C2B co-creation involves two main actors engaging in this process, including the tourist consumer, as the central actor, and the tourism company, as a co-creator of experiences through ICTs. The narratives indicate that the 'tourism company', here conceptualised as one entity, consists of several service and tourism providers, such as hotels, restaurants, airlines and DMOs and their inherent employees. A key finding of C2B co-creation is that participants frequently referred to employees of a company as the co-creating actors of an experience. Interestingly, this suggests that consumers do not necessarily view the tourism provider as a whole unit, but break it down into the individual encounters, interactions and experiences with employees. This insight stands in contrast with the existing literature, which predominantly advocates a company-central perspective of experience and value creation (Prahalad and Ramaswamy, 2004c). Only a few studies so far have acknowledged the integral role of employees (Finsterwalder and Tuzovic, 2010). The analysis highlights that it is indeed the employees, their individual skills, knowledge and resources that create the basic experience and value proposition for the tourist in the co-creation process.

In exploring C2B experience co-creation further, it was found that personal engagement appears to be the primary driver that causes tourist consumers to seek co-creation with companies before, during and after travel. More specifically, participants reported to engage with companies through ICTs for several reasons, and in doing so, co-create their tourist experiences. The findings suggest that tourists are 'willing' to co-create with businesses, if a distinct value proposition is given and benefits can be gained. ICTs facilitate an array of co-creation possibilities between companies and consumers. Four sub-categories emerged in the analysis, including 1) *engagement and communication*, 2) *empowerment, participation and reviews*, 3) *consumer recognition and rewards* and 4) *personalisation and individualisation*.

Engagement and communication

A common form of C2B co-creation is demonstrated through social media *engagement and communication*. The findings reveal that participants expressed a need and desire to get in touch with tourism providers when information is needed. Several channels are used to communicate with companies. Participants described to use 'conventional online channels', such as company websites and destination platforms, but also seek to get in touch via social media channels, such as Facebook and Twitter. In this vein, participants noted that engagement should be like '*having a real conversation with real people*'. Rather than receiving commercial and corporate text messages, consumers value companies' real and genuine engagement. In emphasising the value of ICTs for co-creation, participants posited that co-creation online '*eliminates the impersonal wall*'. Especially through informal social media engagement, ICTs help humanise the experience and consumers have the feeling to '*talk to a real person'*.

Participants noted to connect with tourism companies in the pre-travel stage to get answers to travel-related queries, by sending emails or entering in a short interaction through social media platforms. Several participants reported to engage with companies online to get valuable assistance in the travel planning process. Consumers actively seek C2B co-creation due to the information value they can generate. Consumers revealed that engaging with companies could provide them with knowledge, trustful and filtered insights, as well as official and up-to-date information. Thus, co-creation with companies becomes a critical part of the information search process. Several participants indicated that the official information on websites provides an important starting point for the travel decision-making process, while social media interactions are valued to gather rich content and get quick and fast answers.

> *"When I asked a question on Twitter to the DMO actually I didn't expect such a quick answer, it was only twelve minutes, so I thought it was good." (Martha)*

> *"Facebook page represents a very good arena for you to ask questions and they reply to you fairly quickly, which is really good because if you send an email then they do the generic FAQ and then it gets redirected to a more specific FAQ and then it gets re-directed again and after a week you get a response, whereas here on Facebook you post it there and someone replies to you quite quickly." (Steve)*

Co-creation in terms of engagement was also found to be particularly important in the tourists' post-travel stage. The findings suggest that tourist consumers value the

possibility to establish a personal dialogue on social media and to develop a bond with the tourism provider. For instance, participants reported to seek engagement with the company to recollect their experiences, share them with the provider, communicate or write a review. Particularly if the tourist experience has been pleasant and positive, participants described the desire to engage online and leave a review on platforms, as a way of 'thanking the company' for a splendid experience. The findings indicate that tourists are happy to review positive experiences, as an extension of a personal bond and relationship established in the physical tourist experience on-site.

A further prime motivation to co-create with companies in the post-travel stage online is to stay in touch, keep informed and receive exclusive travel offers for future travels as well as maintain alive reminiscences of personal tourist experiences. For instance, participants mentioned to follow companies they like on Twitter or Facebook, actively like, comment and share posts and pictures and subscribe to updates. By doing so, participants stated to create long lasting relationships with the company and its most memorable employees. These forms of interaction were reported as particularly important when consumers are in search of travel inspiration or seek to gather useful information and insights into their future travel. Shared pictures online are a powerful form of engagement that not only triggers positive travel memories, but also creates dialogues with the company. Such manifestations of co-creation through online engagement are reflected in the following narratives.

> *"Also sometimes cause I subscribe like to travel and tourism, like Kamandalu hotel and Four Seasons hotel, some interesting places also, where I can get all the information. And also from email they keep sending me the hotel I used to stay, they keep sending me all these offers, for example the Ramada in Bournemouth, everyone." (John)*

> *"Because I have this bond with the people so I will put the review on, and I knew that if I put the review it causes something good for them. So even, I never experienced this but if I'm feeling very satisfied with a café and the manager or the waitress asked me to put a good review on it, on TripAdvisor ok, I would put the review." (Teresa)*

Empowerment, participation and reviews

C2B co-creation is also determined by consumer empowerment, participation and reviews. Participants reported that companies frequently empower consumers to get involved and co-create, by sharing their tourist experiences, voicing their opinions and

rating their services online. As a general tenet identified, participants seemed to be willing to review a company, if only a limited effort is involved or if the experience was exceptionally positive. While participants voiced that they understand companies' motivations to gather feedback and to increase positive ratings, it was found that participants seek to share their experiences as a form of co-creation. Indeed, participants stated that having lived a positive experience increases their willingness to support the company by writing a positive review. It is regarded as a mutual value exchange that results in co-creation, along the lines of 'a good experience for good reviews'.

Online review platforms hence facilitate co-creation for the purpose of sharing positive experiences, raising awareness about good companies and help them generate further business, by attracting consumers. In this sense, it was found that participants develop a sense of empowered responsibility, as they feel able to make a difference, by sharing their reviews online, and by doing so, co-create with the company beyond the service encounter. A similar scenario unfolds when negative experiences occur. Participants noted to share less positive experiences to warn other consumers, raise the issue with the company and make it aware of its service failures. In this sense, co-creation occurs as problems are raised and companies are expected to respond to reviews or address problems on the spot. The following narratives are illustrative of the sharing process.

> *"Like for example if I went to an Italian restaurant and made a picture of this awesome pizza (smile) I want to show them that actually this is a nice pizza and I got it at this place and maybe get them, no actually, create like awareness for this restaurant." (Martha)*

> *"I think it is important because they have the right to know of what went wrong and what was very good, so they can reflect on how THEY performed." (Rachel)*

> *"Tag with the hotel, I will tag it on Facebook, and say "it is a nice room but they don't have a kettle or a glass" I will say it on some channel, because it is MY way, I like to share, especially when it comes to touristic activities, I wanna share it." (Sandra)*

Consumer recognition and rewards

Consumer recognition and rewards have been identified as a further form of co-creation through ICTs. While it is not one of the prime elements of C2B co-creation, it has nevertheless been found as a distinct way in which tourists seek to co-create with companies. Participants indicated that initiatives, such as a status within the company or rewards for reviews are perceived as a key motivation for, and benefit of, C2B co-

creation. For instance, several participants noted to check-in through platforms, such as Facebook or Foursquare to co-create with companies in search of personal recognition. Martha and Teresa exemplified such scenarios:

> *"Because it involves, it connects my fun, social game (laugh) with a reward, with an ACTUAL reward. Like a physical reward, like a tea or so, or a free coke (laugh). That is physical and that I can touch. Yeah (smile)."(Martha)*

> *"Yeah amazing, it feels amazing, you don't really expect that the company gives you something and then when you become the mayor, I didn't even know that I was becoming the mayor and they gave me something and it was out of the blue." (Teresa)*

Personalisation and individualisation

A fourth element identified in C2B co-creation reflects personalisation and individualisation. The findings indicate that co-creation with businesses through platforms frequently requires consumers to provide personal information for a more personalised experience facilitation. Participants noted the value of personalisation and highlighted their willingness to provide such information, if the experience promises to create special value. Mentioned examples within the narratives included adapting services to personal requirements and needs, offering personalisation possibilities according to current moods and situational preferences as well as providing push information based on personal interests.

> *"I mean sad or happy, if you say "oh today I'm really happy I got everything, it is such a nice weather and stuff" then I would like to get a personalised invitation for the hotel party, hotel pool party." (Sandra)*

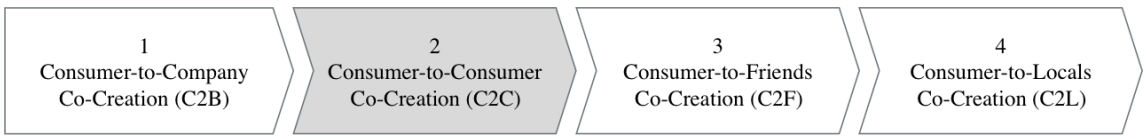
> *"Yeah, when we get for example the newspaper and I get more the business staff and Chris gets more the sports stuff (laugh). Yes, why not? Personalised newspaper according to your interest. Or the bed that has a certain temperature, for example when it is a water bed. Yeah, why not?" (Jane)*

Overall, the findings indicated that C2B co-creation offers a mutual value co-creation for both the company and the consumer, which can result in several outcomes, such as bonding and long-term relationships. Beyond the possible value co-creation through C2B interactions, the narratives also pointed to several limitations within this type of co-creation. For instance, participants mentioned that the information provided is often commercially driven and little trustworthy. While company engagement can generate compelling experiences and value, it was noted that such shortcomings cause tourists to 'switch' to different types of co-creation. Due to several prevalent limitations within the

C2B domain, C2C co-creation emerged as an important theme. This poses critical implications for services marketing and management to tailor information and communication to better suit the needs of tourists. By shifting away from a dominant consumer-company view, tourism service providers should promote platforms that also allow the integration of a wider number of actors in the co-creation environment.

4.4.2 Consumer-to-Consumer (C2C) Co-Creation

Consumer-to-consumer co-creation (C2C) constitutes an increasingly recognised phenomenon in the context of tourist experiences (Huang and Hsu, 2010; Rihova et al., 2014). As consumers not only seek to engage with companies, but also interact with other consumers through ICTs online, co-creation within the consumer domain has emerged as a key element of the tourist experience. In line with the developments of the Web 2.0 and networking platforms (Xiang and Gretzel, 2010; Sigala, 2012b; Leung et al., 2013), tourists seek to particularly engage and co-create with other users, consumers and connected tourists online. C2C co-creation emerged as a distinct form that addresses the limitations, complements and partially replaces C2B co-creation. In addition to interacting with companies, tourists perceive C2C interactions through ICTs as an integral part of their tourist experiences to interact with consumers and exchange information, beyond what companies can provide. The findings indicate that several actors enter C2C co-creation, including consumers offline (e.g. in the hotel and destination) and consumers online (e.g. on social media platforms). Three sub-themes characterise this type of co-creation, including 1) *knowledge and personal suggestions*, 2) *accumulated knowledge* and 3) *reassurance and trustworthiness*.



Knowledge and personal suggestions

One of the prime motivations for, and benefit of, C2C co-creation, appeared to be the possibility to ask others about their prior travel experiences in search of knowledge and suggestions. C2C co-creation has been described as a critical element in the assistance of the decision-making and planning process. While companies might provide official information, which is frequently perceived as commercially-driven, consumers can provide an evaluation of options available. In fact, participants highlighted the value of

C2C engagement, as other consumers can provide more objective and critical evaluations than official information shared by providers, companies, organisations and governments. Two participants underlined the higher reliability and trustworthiness of consumer information below. C2C co-creation was also found to provide advice, personal opinions and experiences, which can be critical to make decisions, whether it is for a choice of a destination, a restaurant or a hotel. Beyond accessing opinions online, C2C co-creation was reported as particularly valuable in providing ratings and specific comments, when tourists need to choose between options.

> *"Because I trust the reviews more than I trust the website because I know that if it would be my website or my hotel I would put really good things on there and then especially, for example, when we went to London and I needed a hostel. I know that there are hostels and there are really good." (Laura)*

> *"PR you would do everything to get the consumer and you would put the best image of your company, but if the other people evaluate that then it is more objective." (Hanna)*

> *"Sometimes it is a bit difficult, if the hotel is really nice and I like the way that the hotel presented itself on booking sites and then I read reviews of people saying, oh it is really dirty, then you kind of have to make a judgment, was it just one case, or is it repeating itself, some people might be angry if they write a review because they had such as bad day and they go on to TripAdvisor and they comment quite badly about it and it might not be the case. So it is kind of judging different points and seeing kind of if the overall picture is still kind of appealing to me and the hotel is still relevant for me and that making this decision on that." (Rachel)*

> *"Maybe TripAdvisor, for booking situations, when I book the hotel I looked at the review and of course they are stranger to me, yes. Yes I will look at them, at their review, how many ratings, the comments to them, yes I will." (Veronica)*

Accumulated knowledge

Beyond providing more objective and alternative views, C2C co-creation was deemed as valuable, as tourists can connect and access 'accumulated knowledge', provided and contributed by the mass of consumers. For instance, a recurrent narrative referred to the value of review platforms, such as TripAdvisor. Participants noted that these sites offer thousands of consumer generated reviews and ratings. These represent an evaluated opinion, which helps tourists in making travel decisions, finding more information and asking other consumers specific question. As a result of such interactions and reviews, consumer opinions provide a more complete picture of a destination, hotel or attraction.

Especially, when an abundance of offers is provided, co-creation with other consumers is useful in that it helps understand 'what is going on' and get a 'more complete view'.

The common tenet of the narratives describes C2C co-creation as valuable, as consumers share their experiences, and the quantity of these, leads to an accumulated understanding, and thus full, rather than partial view, of an experience. Hence, C2C co-creation can be a focal part of the pre-travel experience. Participants revealed to prefer interacting with other consumers, rather than with service providers, when searching for information and recommendations to make an informed evaluation based on other consumers' views and experiences. The following narratives highlight these benefits.

> *"I do care about in my opinion that I could help other people because I believe that someone writes reviews online they help other customers to make a better picture about the company they are dealing with." (Steve)*

> *"It is kind of judging different points and seeing kind of if the overall picture is still kind of appealing to me and the hotel is still relevant for me and that making this decision on that." (Rachel)*

> *"It makes it more authentic if people review a place because it is created by people who have experienced the location or the destination. It is more authentic than the information provided on the website of the company." (Martha)*

Reassurance and trustworthiness

A further distinct value proposition in C2C co-creation seems to be 'reassurance and trustworthiness'. A concurrent theme was that co-creating with other consumers provides a more authentic and unbiased representation of information and more trustworthy indications about past tourist experiences. Participants explained to integrate the view of other consumers in their pre-travel activities, such as inspiration, decision-making and booking, as these are a valuable resource of impartial and honest information. In fact, several participants mentioned to co-create with others through online channels, as a way to let other consumers know about good companies and their own personal and extraordinary experiences. This practice is a form of 'mutual support', which was highlighted in light of the limitations of C2B co-creation.

> *"PR you would do everything to get the consumer and you would put the best image of your company, but if the other people evaluate that then it is more objective." (Hanna)*

"Because I trust the reviews more than I trust the website because I know that if it would be my website or my hotel I would put really good things on there and then especially, for example, when we went to London and I needed a hostel. I know that there are hostels and there are really good." (Laura)

Despite the distinct value created, participants were also concerned with the complex and abundant views provided from the mass of consumers. This frequently leads not only to confusion, extended time in evaluating options and indecision. Moreover, the diversity of consumers and their multitude of beliefs, result in a heterogenic range of views that might not necessarily match with the individual's worldview. Therefore, participants argued that they desire co-creating with people, who are not only trustworthy, but are compatible with the own preferences.

"Because I think on TripAdvisor in the end I don't know who is behind that, even it's a customer, I don't know what age the customer has, what kind of experience they have, what kind of attitude they have, where they are from. There are a lot of things which I don't know and which I think have big influence on these reviews." (Martha)

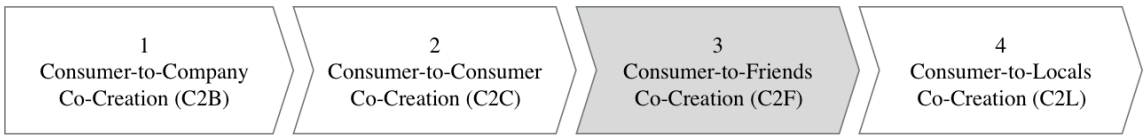
In summary, C2C co-creation was found to offer a valuable type of engagement beyond classic consumer-company (C2B) interactions. The findings confirm that Web 2.0 platforms provide a main trigger for interactions (Sigala, 2008) and the foundation for consumers to interact with each other. The results corroborate with existing literature arguing that C2C interactions and co-creation within experiences assume an increasingly important role. The benefits of C2C co-creation within tourism have also been acknowledged by several scholars, who underlined the role of social media and online communities as a key determinant for the decision-making process of holiday purchases (Fotis et al., 2011; See-To and Ho, 2014; Xiang, 2011). Due to the mass of information available and the implied difficulties in making sense of it, services marketing could explore methods to facilitate recommendations based on shared preferences to obtain more meaningful information. Within C2C co-creation, participant narratives pointed to a dominant number of interactions with friends and families, which were recognised and separated into a distinct type of co-creation.

4.4.3 Consumer-to-Friends-Family (C2F) Co-Creation

Consumer-to-friends/family co-creation (C2F) emerged as the third type of co-creation prevalent in the *Technology Enhanced Tourist Experience*. Beyond C2C co-creation and the integral role of consumers and strangers in experience creation (Huang and Hsu,

2010; Rihova et al., 2014), the findings add a novel perspective to the literature, in that they reveal co-creation with the own friends and family. It was found that participants clearly differentiate between co-creation with other consumers who are 'unknown' and co-creation with people, who are known to the tourist, such as family members and friends. While it is not entirely new that consumers interact and share experiences with the own networks through social media (Munar and Jacobsen, 2014), it has not been recognised and conceptualised as a distinct form of co-creation in its own right. What is of further particular significance in this contribution is that family and friends co-creation does *not* relate to the travel party that accompanies the tourist on-site (Ek et al., 2008). Rather, it is about a new dimension of co-creation with friends and families back home, who connect through ICTs and evolve into co-creators of the tourist experience.

It was found that participants consider the own connected social network as the primary actors with whom to co-create through ICTs. Beyond close friends and family members, these also include acquaintances, who are connected but less well known. While C2C co-creation was found as particularly relevant to gather additional information, reviews and unbiased opinions, C2F co-creation extends to a wide variety of activities that are shared through ICTs. The findings reveal four main dimensions of C2F co-creation. These are 1) *connections and updates*, 2) *sharing and co-participating*, 3) *trustworthiness and compatibility* and 4) co-*creating physical tourist experiences*.



Connections and updates

The first sub-theme identified indicates that C2F co-creation occurs through connections and updates. In this context, participants underlined that it is important to remain connected with family and friends while travelling. Participants emphasised to have a desire to stay in touch with the own social circle and keep track of 'what is going on' at home. In particular, tourists want to keep informed about what is happening in their friends' and family members' lives. Beyond keeping updated through others, participants also indicated to keep others updated about the tourist experience. This process frequently occurs as tourists check for updated content and share experiences through postings online. In this way, not only information and updates are exchanged,

fulfilling the mutual curiosity, but family members and friends also become part of the tourist experience. The following statements are illustrative.

"It is probably staying in touch with people that I don't see so much and don't talk to very often. So it is kind of getting, yes, staying up to date, of where they are and what they are doing, yeah." (Rachel)

"So, it is only certain things that I would choose to post, places where I felt that other people in my circle would be interested. And my family particularly." (Paul)

"I would sometimes post, when I get back, on Facebook the places I have been to, photographs, depending on whether or not, particularly if my family would be interested in where I went." (Paul)

Sharing and co-participating

A further theme of C2F co-creation is sharing of, and co-participating in, the tourist experience. By connecting via ICTs, friends and families are engaged and can become part of the tourist's own experience. In fact, several participants noted that ICTs have become critical for sharing pictures, videos and status updates, through which distant friends and families can feel like they are participating in the experience. This does not only allow both actors to momentarily co-create the experience, but reduces the perceived distance and gives them a deep mutual understanding of what is happening in each others' lives. Several experience narratives also pointed to the particular relevance of real-time sharing. While ICTs allow sharing content after the experience is finished, real-time sharing on the spot was recurrently reported as critical to let family members and friends become part of the experience online. Sharing the experience moment allows both actors to be engaged and live the moment, albeit being distant, together.

"For example Andrew NOW, he is in New York and I really want to go there. I mean he told me about, what do you call that, the Square, with all the neon and the lightings. I really wanna go there." (John)

"Yeah it helps for expressing. But it's more expressing in real-time because it's you know in the old days you just took a picture and showed it to your friends afterwards. And now it's more that you can show it straight away and I'm kind of already used to that. I don't know maybe I'm a bit spoilt but if I see something I want already to put it up there straight away. And also I think it is more expected or something nowadays." (Laura)

"It is the MOMENT, when you find something that intrigues you. And it probably intrigues your friends, if you have something nice and a nice meal or you are in a nice place, I think that it becomes automatic to me to share it, ok." (Sandra)

Trustworthiness and compatibility

A third aspect of C2F co-creation relates to trustworthiness and compatibility, which was noted as invaluable in seeking advice and exchanging information. Differently from C2C recommendations, tourists seek advice from selected people inside their C2F circle, who they know and trust. Several participants shared the opinion that user generated content and reviews about services and experiences are frequently confusing. In fact, the narratives revealed that TripAdvisor comments have often led to indecision, due to the contrast of opinions provided. In this context, participants highlighted that more trusted comments and advice from the own network is sought. Tourists rely on friends and family members, who have lived similar experiences in the past, when advice and evaluated recommendations are needed.

People in the own network are valued due to their common experiences, preferences, knowledge and word views, which might be compatible with the own view. For instance, participants noted to rely on friends when choosing destinations or restaurants. Compatibility thus emerged as a key factor and main value proposition that tourists extract from co-creating experiences with the own familiar network. Interestingly, a small number of participants also noted that while the network of friends is trusted more than consumers (C2C), they closely evaluate which friend's advice to act upon. In case of compatible ideas, likes and worldviews of friends, suggestions are accepted, while rejected otherwise. Several statements reflect the notions of trustworthiness and compatibility of C2F advice, as expressed by participants below.

> *"Because I already appreciate the reviews but then if I see the reviews of my friends I will trust them even more than I trust people that I don't know…Just book the hotel rather than going on TripAdvisor and reading lots of other review. So for me it would be kind of fine, it would cut out the reviewing process …" (Laura)*

> *"I believe more my friends because advertisement is paying someone to advertise all these things. I think Facebook is like they will tell you the truth." (John)*

> *"For example if this is a friend who goes backpacking a lot, I would probably not go for that because they might want to stay in a hostel and I want to stay in a hotel. So, but it would certainly, just book the hotel rather than going on TripAdvisor and reading lots of other reviews. So for ME it would be kind of fine, it would cut out the reviewing side aspect of getting informed." (Rachel)*

> *"I would always double-check if it is really suitable for me because their interest might not match with my interest." (Jane)*

Co-creating physical tourist experiences

A further central characteristic of C2F co-creation processes was the dynamic co-creation and planning of the physical experience on-site. Participants commented that the connection with friends allows them to co-create experiences in real-time. For instance, the comments and advice received from friends enables tourists to change or make new plans, while they are still at the destination. As a further aspect of co-creation, online check-ins emerged. Participants stated to frequently engage with their network by announcing their travel locations, checking-in at exciting places or checking-in at locations where others have been before. Particularly triggered by LBS applications, checking-in through ICTs appears to be a popular C2F co-creation practice. Due to numerous possibilities to engage online, the common tenet of the narratives was that the tourist experience becomes much more exciting when co-creating it with friends. Such past reflections are recalled in the narratives below.

> *"I used WeChat and took a picture and put on WeChat and one of my friends left a message and said 'remember to buy a crystal' and I thought 'yeah Austria that is famous for crystal, so that comment could be helpful as well, it reminded me something may have overlooked, may not remember, some of the souvenirs or anything, so that is valuable as well." (Veronica)*

> *"Of course, of course, yes I appreciate it. So that my friends, I want to let them know where I am, especially for some of them I will tell that I'm going somewhere, so they will know where I am know. Probably they will be excited for me and also excitement. EXCITEMENT." (Veronica)*

> *"I'm in Malta, and this guy came up and said if you are in Malta go to Mdina and go to this place that does the best chocolate cake, and then other people, my friends came online and they just did the dialogue on there and they said "oh if you go there, also go THERE and do that and the other" (Dan)*

In summary, the findings revealed a number of processes that occur within C2F co-creation. "*Tourist travel is one of the most important ways by which families and friends get together*" (O'Dell, 2007, p.37). This statement particularly highlights the role of family and friends in the tourist experience when ICTs come into play. Not only do friends and family have an important role as travel companions on-site, but through ICTs, they become connected co-creators, even while being distant. Especially through social networks, friends and family have become a main resource of trusted information and the principal actors with whom tourist experiences are shared. The findings also conform with the recent study by Wang et al. (2012), who suggest that the tourist

experience gaze can be more intense when communicated and shared with family, friends and other consumers. Given the dominance of C2F co-creation in this study, this type of co-creation could present an interesting opportunity for services marketing and management. Businesses could facilitate ICTs platforms that particularly encourage C2F interactions for more social, conjointly constructed and, perhaps, more pleasurable tourist experiences.

4.4.4 Consumer-to-Local (C2L) Co-Creation

The fourth type of experience co-creation was labelled consumer-to-local co-creation (C2L). Beyond the dominant levels of co-creation with companies, consumers and friends and family, it was found that ICTs open a further novel dimension in that consumers co-create with locals to a new extent. While host and tourist interactions have always taken place, ICTs provide platforms to connect tourists with locals that have not existed before. Previous literature has recognised tourists' on-site engagement and bonding with local residents and communities (Jennings et al., 2009). Such physical 'offline' co-creation continues to exist. The findings, however, reveal that ICTs enable new and additional ways for consumers and locals to engage in co-creative interactions online, as well as connect to potentially meet at the destination 'offline'. While C2L co-creation has been mentioned less dominantly than the above presented co-creation themes, it has emerged as a very distinct form of co-creation that merits attention, not only in this, but also in further research. Two main sub-themes have been identified, which are 1) *local information and advice* and 2) *authenticity and local insights.*

Local information and advice

With respect to the actors involved in C2L co-creation, the findings indicate that connected tourist consumers and connected locals (local residents of the tourism destination visited) play the main actor roles. Hence, locals were found to consist of unknown local people as well as people from the own social network that are local hosts at the time of the tourist experience. C2L co-creation consists of several processes. One of the most valuable processes occurs in the pre-travel stage planning process. Participants indicated that connecting with locals can provide major benefits to gather

knowledgeable information and advice about a destination. Compared to information from companies, other consumers or friends, advice from locals is considered as superior. Participants stated that consulting locals as a resource of information is also time-saving, as locals can provide the real advice, rendering C2C recommendations almost redundant. In fact, several participants noted that locals have extensive knowledge about their 'home' town, city or destination, which can offer crucial insights to help evaluating options and making a decision. What was found to make C2L co-creation distinct is the local insider information that becomes available. The following participants expressed the value of getting advice from co-creating with locals.

> *"It is good quality to connect with the local host in advance, and we exchanged email after I paid them the money and then we exchanged the information and I can ask her the information and this is cool." (Hanna)*

> *"Yeah but we were using the AirBnB app to get in touch with them, so we could ask about the direction to go to their place and other things like how long is it to go the train station. (Teresa)*

> *"They had a special day within the year when it was free and I didn't know exactly, so I had to go online to ask, instead of I just realised that the date was moving, it was not a fixed date so that would be something useful to have, the local could post, like in three days time, on the 8th of May, all the museums in Prague are going to be free to enter, so that would be something that I would value." (Steve)*

Authenticity and local insights

Participants reported the value of authenticity and local insights gathered online. For instance, it was noted that content shared by locals can serve as a resource for inspiration and can provide unique recommendations about authentic local places. Furthermore, the in-depth place knowledge of locals was recognised to be particularly valuable when looking for real information about places and attractions. In this context, local reviews were found to be more authentic and trustworthy than company-centric information (C2B) and consumer reviews (C2C). The following three examples are illustrative of how local insights and reviews could create additional value:

> *"Yes, yeah, compared to company on the Internet is anonymous and real people (add: locals), of course you would choose real people, and then the comment from other customers and then the company." (Hanna)*

> *"If it was with people who I perceived to be, like people like me but locals then I would value that a lot more highly." (Paul)*

"Yeah, because you are a local, you know more than any other person to tell me about it, you gave me a lot of information and websites, this is a very good way I mean. If you go on the website you can find a lot of information." (Aaron)

The analysis further indicated that ICTs do not only facilitate C2L co-creation online, but also enhance the possibilities for people to connect and co-create tourist experiences offline. Participants mentioned that ICTs, by being integrated for connection purposes, can facilitate more authentic experiences in living the lifestyles of locals. For instance, platforms, such as AirBnB, allow tourists to connect and interact with locals online. By using these platforms, it has become not only possible to get in touch with locals more easily, but also to experience the authentic local life by 'co-living' with them for a short period of time. Participants have further stated that this kind of co-creation with locals allows tourists to behave and feel like a local and to experience the real essence of a place. In this process, social bonding with locals and an understanding of the local culture are created, which become an integral part of an enhanced tourist experience. The following narratives give insights into the value created of authentic experiences.

"I think it is more local, not a tourism provider, I mean from experience, I mean we experienced eight, it is not that much but it is kind of a big number for me, as the first experience and all of the hosts are really helpful and they are being a good local and I have to say that it is more of a local compared to tourism provider." (Teresa)

"I mean I think it is really important to make friends with people all around the world it makes it easier for use to travel to that place, in the future, so you can have a local contact and they can show you around and you can meet up and I think it is important to have a local contact in a country". (Teresa)

Overall, the findings revealed C2L co-creation as a novel and significant form of co-creation. The results emphasise the role of locals as main actors in conveying tourists an insight into the 'real' destination. Engaging with locals online offers tourists a unique opportunity to discover the most authentic places and have 'a taste of the local way of living'. In this vein, locals become a valuable resource of reliable and unbiased information that, in many cases, render C2C advice redundant. While the findings have provided exploratory insights into the value of C2L co-creation, it is of great interest to understand the increasingly important role of locals as experience co-creators in sharing knowledge. This knowledge could be particularly relevant for services marketing and DMOs. In recognising locals as 'destination experts' and 'ambassadors', the

establishment of online local-tourist platforms could be encouraged to provide resources that better facilitate the interaction and co-creation between locals and tourists.

4.5 *Chapter Summary*

This chapter had the aim to present the findings gathered from Research Phase 2 and Research Phase 3 to explore tourist experience co-creation through ICTs from a two-fold company-consumer actor perspective. The case study findings presented the company's role in facilitating the enhancement of experiences. The dominant types of ICTs were highlighted and the role of the company as an important resource facilitator was illuminated. To conceptualise ICTs resource integration and co-creation, a nine-field matrix was developed, as a knowledge contribution to offer a more differentiated understanding of possible types of experience co-creation from a company perspective.

The findings also shed light on the consumer as the actor, who chooses whether to engage with the company as part of the co-creation process. This issue has been tackled by several recent studies (McColl-Kennedy et al., 2009; Heinonen et al., 2013; Rihova et al., 2014), which highlight the central role of the consumer in the co-creation process. Value creation is a process that happens "*in the context of a service system and is the result of resource integration and the involved actors' use of their knowledge and skills*" (Durrande-Moreau et al., 2012, p.6). The proposed arguments are in line with the findings, which reveal that through the integration of ICTs, multiple levels of co-creation occur within the *Technology Enhanced Tourist Experience*.

The results revealed four main types of tourist experience co-creation, including C2B, C2C, and importantly the novel C2F and C2L co-creation processes. These findings have relevant implications for theory and practice in the services marketing context. Not only is it necessary to move beyond dyadic conceptualisations of co-creation, e.g. B2C and C2C co-creation, but it is critical to recognise a network of connected actors that co-create experiences and value with the tourist consumer. As a result, it is necessary to adopt a consumer-centric logic that allows facilitating co-creation processes around the consumer and the connected network. From a business point of view, it can be suggested that a great variety of interactions, experience creation activities and value creation opportunities occur outside the company domain. Tourism firms' primary role is to provide the necessary facilities and ICTs platforms, which allow tourists to maximise co-creation and engage with a wider multiplier network of actors.

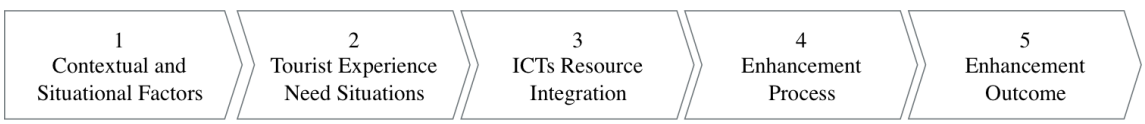
CHAPTER 5: FINDINGS: TOURIST EXPERIENCE ENHANCEMENT PROCESS

Chapter 5, the second of the findings chapters, presents the results of Research Phase 3 (QUAL III) and addresses *Research Objective 3*, by illuminating the tourist experience enhancement process. Having analysed the underlying co-creation processes from a company-consumer perspective in the previous chapter, this chapter now turns to shed light on the processes necessary for a tourist experience to be enhanced through ICTs. The role and integration of ICTs as resources (Akaka and Vargo, 2014), through which a tourist experience can be created, is at the core of this chapter. These findings contribute to the missing understanding of the drivers and the processes of value co-creation (Durrande-Moreau et al., 2012) and shed light on how ICTs can be integrated. The chapter is divided into five sections, based on emerged NVivo themes (5.1 to 5.5).

Research Objective 3

To explore the role of ICTs in enhancing the tourist experience and the experience co-creation process from a two-fold company-consumer perspective

The first theme emerged presents the *contextual and situational factors* that shape ICTs resource integration to enhance tourist experiences. The second theme introduces *tourist experience needs situations*, in which the integration of ICTs occurs, while the third part presents an understanding of the *ICTs resource integration*. Specifically, influencing factors, such as the attitude towards ICTs, the evaluation of available resources, types of ICTs and current technological enablers and barriers are introduced. This is followed by the *enhancement process*, which reveals the enhancement of tourist activities and the travel stages. The chapter lastly outlines the *enhancement outcomes*, by showing different ICTs resource intensity levels and an experience enhancement hierarchy.



To conclude the chapter, tourist experience enhancement scenarios are conceptualised based on participant narratives. These offer a detailed practical knowledge, depicting representative scenarios that reflect the tourist experience enhancement process in its entirety. The chapter is summarised and two models depicting the enhancement process are conceptualised as contributions to theory. The 'Tourist Experience Enhancement Process Model', presented in Figure 5-11, provides a graphical illumination of the interlinked processes that occur in the enhancement process. By doing so, it makes a theoretical contribution to the S-D logic and tourist experience framework, by offering novel insights into ICTs resource integration and the underlying contextual factors and needs, as well as different types of enhancement outcomes. Table 5-1 shows the NVivo analysis, presenting the final coding themes, on which the chapter is based, a brief definition of each category and the number of sources and references in each theme.

Table 5-1. Tourist Experience Enhancement Process

Category Enhancement Process	***Definition***	***Nr. Sources***	***Nr. References***
Contextual and Situational Factors	Contextual variables that influence the use of ICTs and enhancement process	15	265
Tourist Experience Need Situations	Need triggers and needs in the tourist experience addressed by ICTs	15	406
ICTs Resource Integration	Characteristics of ICTs and how these are integrated to enhance experiences	15	1088
Enhancement Process	Specific tourist activities in the three-stage travel process enhanced	15	1122
Enhancement Outcome	Outcomes of the enhancement process obtained based on ICTs integration	15	242
Total			

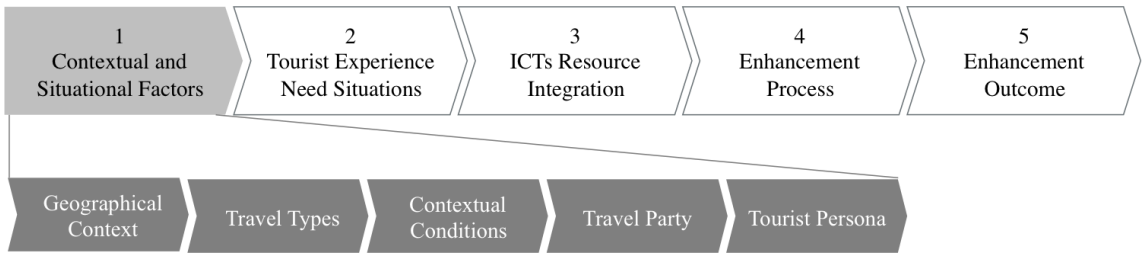
Source: Author

5.1 *Contextual and Situational Factors*

The first theme emerged in the analysis refers to the external contextual factors that shape the integration of ICTs in facilitating the enhancement of tourist experiences. Experience and value creation occur in the frame of a wider service (eco)system that is determined by a high complexity of variables influencing the service context (Akaka et al., 2013). In such a system, actors decide to access and act upon available resources to be integrated (Wieland et al., 2012). As resources per se 'are not, they become' (Vargo and Lusch, 2004), actors evaluate the use of available resources, which might become valuable in the context of use (Chandler and Vargo 2011; Helkkula et al., 2012).

In this sense, resources may not simply be, but are rather shaped by the context in which they are drawn upon (Wieland et al., 2012). This implies that the same resource can potentially be more valuable in one context, while less valuable in another context (Chandler and Vargo 2011). As resources do not carry pre-existing value, it is the context of the actor (in this case the consumer as a resource integrator), who decides on the ability, willingness and benefit to integrate these (Wieland et al., 2012). In contributing to this vein, the findings reveal five dominant *Contextual and Situational Factors* that shape the tourist's resource integration of ICTs into the experience.

These five factors include: 1) the *geographical context*, 2) *travel types*, 3) *contextual variables*, 4) the *travel party* and 5) the *tourist persona*. These emerged factors, individually and combined, provide the overarching contextual framework of the 'service and experience (eco)system' that determines the situation in which tourist experiences are co-created and enhanced. Most importantly, these factors influence whether or not, and if, to what extent, ICTs can be integrated for tourist experiences to be enhanced. The five factors with their inherent implications are outlined below.



5.1.1 Geographical Context

The 'geographical context' was found to be the first contextual and situational factor influencing the tourists' ICTs usage. Several geographical variables seem to play an important role in influencing the extent to which tourists adopt and integrate ICTs as a resource into their tourist experiences. The variables identified appear to relate to the tourist's a) perceived distance to, and familiarity with, the tourism destination, b) perceptions of the visited country and tourism destination and c) the technological development in the visited country.

With respect to the perceived distance, it was found that participants integrate ICTs differently, depending on whether they travel to a short-haul destination (locally, domestically or international travel) or going on a long-haul trip (overseas, distant and exotic destinations). Participants note that they would feel comfortable not using ICTs

when travelling to a destination close-by or in the same country. In contrast, due to the perceived geographical distance, unfamiliarity and cultural distance often associated with long-haul destinations, participants appear to use more ICTs, in particular in the pre-travel planning stage and during travel stage. It was found that ICTs integration often seems to be shaped by the tourists' perceived distance, cultural differences and similarities between home (country/place of residence) and the tourism destination. The higher the familiarity with, and knowledge about, a destination, the less dependence on ICTs was reported and vice versa. For instance, one participant underlined the familiarity with Europe and the perceived ease to find his way, without feeling the need to use ICTs:

> *"I have practically been everywhere in Europe, and I'm confident that I will find my way, so even though I go to a place that I have never been, like I don't know, Stuttgart, or I don't know, Salamanca then I'm confident that the minute I arrive there I pick up a map, probably a little leaflet and I will find my way around." (Dan)*

This however does not seem to be the case if tourism destinations are distant and little known. In such cases, an opposite ICTs usage scenario appears to unfold with participants reporting increasing reliance on ICTs, as a tool for preparation prior to travel and an emergency and backup tool on-site. In line with this argument, another participant referred to his increased need for ICTs use in the pre-travel stage, resulting from the own unfamiliarity with an overseas destination:

> *"If I go to China for instance, I have NO idea how to use the ATM for instance, I have no idea how to travel, I have no idea about the language, so I would need to make more preparation. If I went to Shanghai and I would know that I need some money or cash, I would sort of try to see, in advance, where the cash points are, as an emergency solution, if something goes wrong, to just go there, so the benefit is this." (Steve)*

Moreover, ICTs seem to be of particular importance when travelling in geographically and culturally distant countries. For instance, European participants recalled an increased need to use ICTs as a way to cope with an alien culture (cultural distance) while travelling to Asia (geographical distance). It was also evident that the familiarity with a destination, based on the number of visits, shapes the tourists' need to use ICTs. Participants reported a strong usage of ICTs when visiting a destination for the first time. In this case, ICTs are used to find the required information, not only in the pre-travel stage to plan and prepare the trip, but also on-site to navigate through an

unknown environment. In contrast, tourists, who repeatedly visit a destination, appear to be usually less reliant on ICTs. Participants noted that this results from the familiarity with several aspects of the destination. Thus, having knowledge of the key points of interest, knowing where to go to ask information and being able to find one's way around appear to increase the tourists' confidence and reduce their reliance on ICTs. The following experience narratives are examples of such different perceptions:

> *"I have never been there before. So next time I will be there I'm much more confident, but this time I had no idea about the geography where I was going, absolutely nothing." (Dan)*

> *"In Swanage, even if something goes wrong I know how to travel around the area, I know that I might need to get on the bus or 49, so I would be safe, I would be fine." (Steve)*

Another aspect shaping the reliance on ICTs in tourist experiences was found to be of linguistic nature. Anticipated language barriers emerged as a recurrent theme, indicating a strong need for ICTs use. Language barriers not only seem be related to the tourist, who might have limited knowledge of the language spoken in a tourism destination. They also concern the visited country in which common tourist languages (e.g. English) might not be sufficiently spoken among local people. Tourists indicated the frequently encountered difficulties to communicate and interact with locals as a main reason to increasingly rely on ICTs. Such contextual barriers encourage tourists to use ICTs to increase their self-sufficiency to solve specific need situations (e.g. finding information or getting directions), while avoiding the hurdles caused by language difficulties. The following extract captures some of the language issues encountered, addressed by integrating ICTs (as an operant resource), rather than asking locals (operant resource).

> *"Yeah, because my French is not so good… I think I wouldn't bother either asking, I wouldn't bother people asking for directions." (Jane)*

Closely linked to language difficulties, tourists' perceptions of the visited country were found to be main determinants influencing to what extent ICTs *are*, and perhaps more importantly, *can* be used to support the tourist experience. These seem to relate to the perceived danger within the tourism destination, the ease of travel in the country, the possibility of technology use and the implied perceived difficulty of potential problem rectification on-site. For instance, experience narratives revealed that tourists have concerns about using ICTs in potentially dangerous environments, such as some

quarters of New York City or Cape Town. Due to the perceived risk of being mugged or getting the devices stolen, participants expressed the feeling that they might not be able to openly use their latest gadgets, smartphones and tablets. This makes the search for information or the use of augmented reality applications impossible. Two participants offered such reflections relating to the perception of a country and the implied ICTs use:

> *"It depends on how dangerous the destination is, how far away it is, and from what is my perception of the destination." (Dan)*

> *"I mean I normally if I go abroad I tend to be better prepared than if I go somewhere nearby, the language could be a barrier, also if something goes wrong it is probably more difficult to rectify the problem, so I normally do quite a lot of preparation." (Steve)*

Additionally, it was found that the technological development within the tourism destination is a significant factor that can moderate the use of ICTs for tourism purposes. In fact, it was noticed that tourists find it relatively effortless to integrate their devices, connect online or use specific applications in technologically-advanced countries, which provide Wi-Fi access, free Internet hotspots, network connection and 3G or 4G. In contrast, participants reported that the potential to use ICTs to enhance their experiences becomes fairly limited in countries that are less technologically-developed (e.g. because of the unavailability of coverage, slow network or broadband connection) or have specific technological restrictions implied upon them (e.g. prohibition of Facebook in China) (see quote below). Such limitations however not only occur on a country-specific level. As participants indicated, often there are major differences in technological development between rural and urban areas within the same country, which shapes the use of ICTs for experience creation and enhancement.

> *"Yeah, I tried in China but it was banned (laugh). In Hong Kong but I bought a thing to get connected for the laptop, I just wanted to keep connected." (John)*

The emerged geographical variables appeared to be critical in determining tourists' ability and inclination to integrate ICTs in the travel process. By taking these factors into consideration, tourism destinations and organisations can promote ICTs to increase information, familiarity and knowledge about places, overcome language barriers and perceived difficulties enhancing the overall tourist experience.

5.1.2 Travel Type

Within contextual and situational factors, the undertaken 'travel type' emerged as a second variable, influencing the potential technology enhancement of the tourist experience. The findings indicate that the integration of ICTs appears to greatly differ, depending on the type of travel, whether tourists travel for leisure purposes, business, visit friends and relatives (VFR) or go to urban or rural areas. It was found that different types of travel seem to be indicative for a characteristic ICTs use within the experience.

Participants described to experience contrasting ICTs use in business or leisure travel. For instance, when travelling for business, time constraints might require individuals to use ICTs as a means to access and receive information fast. The opposite however often seems to be the case when participants travelled for leisure purposes. They found themselves having lots of times, which reduced the urgency of situations and made them use ICTs less, as they could 'simply take their time' to find their way around and gather information. In a similar vein, a contrasting behaviour of ICTs use emerged in the pre-travel and during-travel stages. This appeared to greatly differ when participants compared past leisure and business travel experiences. As business travel is often characterised by pre-defined plans and programmes, reducing the available time, the need to use ICTs to make plans before and during travel seem to decrease as well. Participants outlined the following experience recollections:

> *"When it is just a relaxing, lying around, having the nose in the book-holiday then it's, then I wouldn't so often use the technology." (Jane)*

> *"When I'm somewhere I use kind of some social networking sites to check-in to places, but not a lot really, during a holiday I just enjoy kind of staying on a holiday. And if I'm on a business trip then I'm working, so I don't necessarily don't spend too much time looking for things." (Rachel)*

Several experience narratives revealed additional contrasting behaviour within specific travel types. For instance, a couple of participants noted to use ICTs to a different extent, depending on whether they visit a destination for the first time (e.g. city trips) or travel for VFR purposes. The findings suggest that this is because of the level of information needed associated with planning, finding locations and navigating in unknown places. By contrast, when visiting family and relatives, the need for detailed pre-travel information might be limited. Another emerged aspect relates to the possibility and the need to connect. Participants reported that their ICTs behaviour

strongly depends on whether the tourist experience is lived in a rural area or in an urban space. The following comment shows such an evaluation in the context of camping:

> *"If I would go for example camping. I wouldn't use it really because I would just, you know, camping is like already like very, not many people do it anymore and it's like you, if you go camping you just kind of escape from the technology-world that is happening now I think. And yeah, I wouldn't use much technology, take a bike, take a ride, I don't know, do activities outside and in a city it would be, again, it's both like, it would be a holiday for me but so in both times I wouldn't really want to be connected with my friends but I would use it for my own benefits like all the technology and then I would use it more in a city than when going camping. (Laura)*

The specific travel type appeared to be a main antecedent of the perceived possibility, necessity and willingness to integrate ICTs as a resource to enhance tourist experiences. While examining holiday typologies in relation to ICTs use is outside the scope of this research, the findings offer interesting exploratory insights, by indicating a relationship between the type of travel undertaken and the level of ICTs usage. The findings highlight important implications for tourism organisations whishing to understand how different travel types create different experience settings and what levels of ICTs facilitation are required and desired to enhance the tourist experience.

5.1.3 Contextual Conditions

The third factor emerged comprises four underlying 'contextual conditions' that shape the ICTs enhancement of tourist experiences. These refer to a variety of conditions relating to the environment, personal, financial and time considerations. First, it was found that the environmental conditions prevailing at the tourism destination (e.g. season, weather and climate, events) determine the extent to which tourists decide to adopt ICTs. As travel activities are often weather dependent and subject to change, so is the technology-facilitated travel planning. Participants described to use ICTs as a tool to carry out the basic planning ahead (i.e. pre-travel stage), while based on the environmental and contextual conditions on-site, ICTs are integrated to assist them in spontaneous planning or changing plans, if needed. For instance, one participant said the following about the environmental conditions in relation to travel planning:

> *"I do have a rough plan in my head and it is contingent on the weather and all the environmental factors." (Steve)*

Another factor identified relates to the personal conditions of the tourist's mindset, including the emotional state, mood or physical state, which appear to influence how tourists' desire to use ICTs in their experiences. In fact, emotional states and moods were found to frequently determine tourists' spontaneous desire to share their experiences, post pictures and comment on social media. Similarly, tourists' physical states (e.g. feeling fit, exhausted, tired) during travel were also found to play a role in shaping their desire to use ICTs. To give an example, one participant explained to have used ICTs to find quicker ways to avoid further exhaustion. Additionally, financial conditions have emerged as a critical factor that appears to determine ICTs usage, especially in the tourism destination. Most commonly, participants pointed to the issue of costly Internet access and the need to pay for roaming abroad. These factors seem to limit tourists' possibilities to use ICTs for activity support on-site.

> *"I think if you are using the mobile in the UK or go outside the UK, you have to pay for data roaming and it is expensive." (Andrew)*

Time conditions were found as the fourth contextual condition determining ICTs use. Participants indicated that ICTs play a crucial role in travel situations, in which they encounter time constraints and find themselves under time pressure. In particular, mobile applications are used as tools to help locate places or find information quickly. ICTs integration is not only relevant under time-pressure, but also in case of spare time during travel. For instance, participants commented that ICTs are used to enhance experiences in many instances, while waiting, queuing in line for attractions, waiting for food to be served in restaurants, or simply while being bored during travel. Hence, it appears that ICTs are used in a two-fold manner, depending on the respective context. First, to better cope with time-critical need situations and second, to fill gaps, be entertained or engage with social media, games and applications during 'travel downtimes'. John described the value of integrating ICTs to fill spare time below:

> *"Mostly when you are travelling and you have like five minutes or fifteen minutes spare time and you will be trying to do this technology thingy." (John)*

The contextual conditions identified offer relevant insights into how the tourist's own personal sphere and the immediate environment can shape ICTs usage and different experience enhancement scenarios. Recognising these factors could provide a chance for tourism destinations to offer applications that meet the variety of tourists' contextual needs. For instance, this could be realised by providing LBS applications, which allow

filtering environmental conditions (e.g. weather, time of the day, time pressure) or by offering tourists to adapt experiences (e.g. museum tours, hotel rooms) to personal moods and physical states to facilitate the achievement of their ideal tourist experience.

5.1.4 Travel Party

The fourth contextual and situational factor emerged relates to the 'travel party', referring to the people accompanying the individual tourist. Through the interviews it was found that the travel party entails important implications for the use of ICTs during tourist experiences, with participants highlighting main differences when a) travelling alone or with b) a partner, c) the family or d) a group of friends. As a general tenet, participants reported an inclination towards lower ICTs use when accompanied by other people. When travelling with other people, tourists do not solely rely on themselves and the support of ICTs, but have others to ask and speak to. It is the joint integration of their operant resources, i.e. intangible resources, such as knowledge and skills upon which tourists act (Vargo and Lusch, 2004; Akaka and Vargo, 2014), which seems to reduce the reliance on ICTs as an operant resource in the experience creation.

A further common narrative emerged is that tourists adapt their ICTs use behaviour when travelling with company (partner, family or friends) to avoid ignoring other people, being rude and irritating them with excessive technology use. Interestingly, if tourists travel alone, a contrasting scenario occurs. In fact, a proportion of participant narratives indicate a considerably higher desire for ICTs use when travelling alone. This arises from a reported feeling of loneliness, a state of boredom and the active desire to connect, share and co-create the experience with others through social networks. The following statements represent examples of changes in ICTs usage, due to the presence of a travel party, or the lack thereof:

> *"Yeah I think if I travel alone, I would probably use sharing tools MORE." (Rachel)*

> *"I think if I'm travelling alone I might consider to use mobile technology." (John)*

> *"I would share more things because I am alone and I want other people to participate in my journey rather than when I am with another person or my family then it is like, I want to be there for them and not be with my social network. When I travel alone I think it is kind of, I think it would change and I would use it more often. Because I'm bored." (Jane)*

With respect to group travel within a family or a friend cohort, the findings provide exploratory insights that illustrate how potentially different ICTs use behaviours unfold when travelling in small groups. While one participant (see below) notes that travelling in a group does not change ICTs integration, several participants point to the contrary. For instance, one participant recalled an experience in which everyone in the group used devices to take pictures (post and share them) and compete against each other (Foursquare check-ins, Facebook likes). Offering a different view, another participant described that in a group, it is usually one person who takes the lead, for instance, by navigating with Google Maps, while the others wait and follow the outcome. Group behaviour seems to be determined by the dynamics of the group and the purposes of the tourist activity, leading individual actors to reduce or expand their respective ICTs resource integration (Wieland et al., 2012) in the co-creation of their joint experience.

> *"No I think it is still similar, because when I'm travelling alone I still use my phone. I think it is not really so much different when travelling alone or in a group when you visit a culture that you don't really have much information about because all in the group also don't know about the country, so it is still the same when you are alone or in a group of three girls that don't know anything." (Teresa)*

> *"In fact it is different for example when I travel with friends that also love photography so it would be different we would use the camera more and we would play around more, we would compete with each other. So the way I use it more." (Hanna)*

Concluding, the role of the travel party seems to have added an important aspect to understanding the contextual dimensions of the tourist experience. The findings suggest that tourists travelling alone have a higher desire for ICTs use as a way to connect, and in some cases, compensate for the lack of human relations and interactions present. Contrarily, tourists travelling with other individuals seem to emphasise social relations in the physical surroundings, rather than the ones in the online spaces. Awareness about such behaviour could allow tourist organisations to tap into facilitating technologies as well as experiences that better reflect the social contextual needs of tourists. This could be done, for instance, by providing tourists, who travel alone, tablets in the hotel environment to connect and be entertained. Organisations could also develop gaming applications for groups of friends and families to play in a destination setting and provide platforms based on which multiple users could connect to enhance experiences.

5.1.5 Tourist Persona

The final situational and contextual factor identified highlights the tourist as an individual, subjective 'tourist persona', who, as the main actor and resource integrator determines to *what extent* and *how* ICTs are used. This is because the individual tourist is the one who undergoes the experience (Larsen, 2007), decides on the contextual usefulness of resources (Wieland et al., 2012) and uniquely defines their value-in-context and use (Vargo and Lusch, 2008; Chandler and Vargo 2011). Beyond several external contextual factors that shape experience enhancement, it was found that some factors appear to exclusively relate to the tourist persona. These factors included the own cultural background, behavioural aspects, personal knowledge, past experiences and personality traits.

The cultural background and behavioural aspects inherent in one's culture have emerged as indicators of the motivation to use ICTs in experiences. Through their narratives, participants expressed different desires for social interaction, sharing and engaging with local people, providers and stakeholders or their own social network online. While the degree of social engagement, or avoidance, in some cases could be grounded in the tourist's personality, several participants explain that they feel it is mostly because of their culture and surrounding environment that they seek to engage with people or become independent through ICTs use instead. One participant, for example, tried to put his reflections into words:

> *"Yeah, maybe this kind of is a thing, like Asian culture. You don't mind, maybe European they are more independent, they don't want to, like oh I have the application. But Asian people are more like a, like let's have a chitchat, let's have a talk." (John)*

Personal knowledge through information, formed expectations and perceptions as well as past tourist experiences (*Erfahrung*), in the sense of accumulation of experiences throughout a lifetime (Larsen, 2007), were also found to be a main contextual factor of ICTs use in tourist experiences. Prior to integrating ICTs, tourists seem to evaluate their knowledge about, and degree of confidence with, a particular tourism destination. If knowledge levels are low, they reported to be more likely to adopt ICTs for extensive pre-travel preparation, planning, information search and prior visualisation. Differently, with prior knowledge and experiences (e.g. through own visits, photos or others people's experience accounts) about a particular destination, tourist seemed to rely more loosely on ICTs use, not only before, but also during travel.

Finally, the narratives reveal a range of situations, in which ICTs use can only be ascribed to individual personality, rather than be explained by external factors. In such cases, personality traits, spontaneous behaviours and decision-making, individual preferences, needs and interests seem to determine to what extent and how ICTs come into play. The following comments provide participant voices, with the first quote narrating ICTs use in the case of missing prior knowledge and experiences. The second comment reflects an example of the own personality and preferences to avoid using ICTs for sharing and 'showing off' a restaurant experience on social media.

> *"You can get a better impression about the destination because usually the map in old good times you could not get an impression of how particular places look like. Whereas now you just use these Google Maps, these 3D things, you just go there and you actually know what to expect when you arrive." (Steve)*

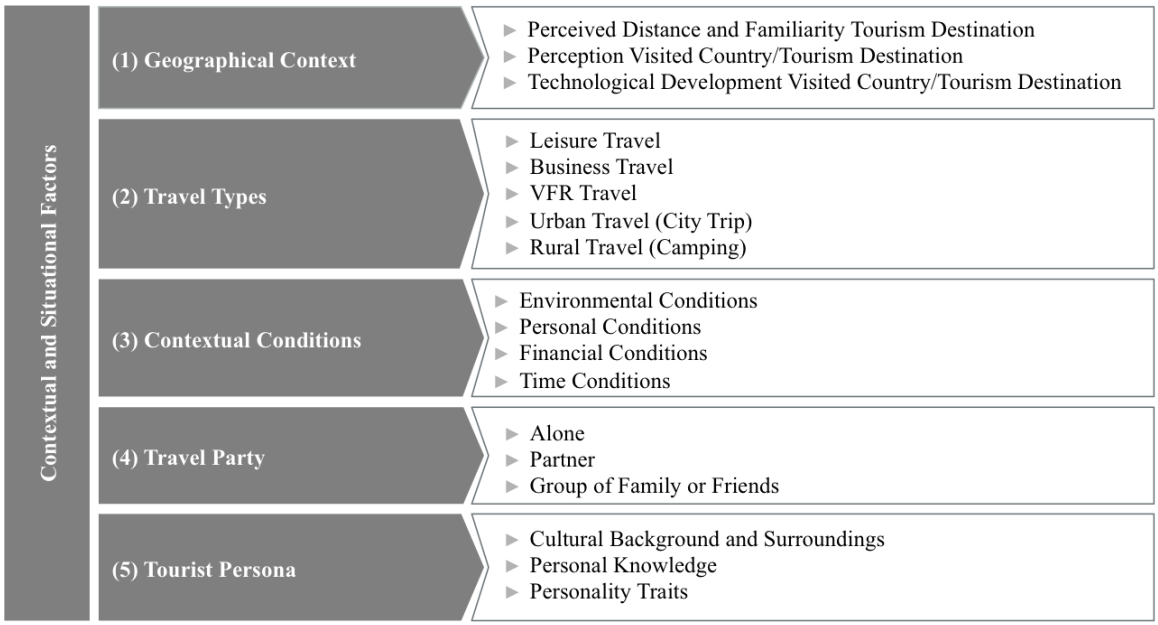
> *"I'm in Berlin and I had just a wonderful dinner in this restaurant. Full stop. That's it. I'm not like, I don't like showing off and saying oh that was cool." (Steve)*

Concluding this section, the five emerged contextual and situational factors seem to impose a significant influence on the integration of ICTs within tourist experiences. As an interesting insight towards understanding experience enhancement, it was found that tourists' ICTs integration does not reflect a consistent pattern, but is rather highly contextually shaped by the surrounding framework of the experience. This is consistent with the notion of value-in-experience, portraying experience and value co-creation as a phenomenological endeavour (Chen, 2011; Helkkula et al., 2012), in which the integration of a resource, such as ICTs, might be perceived valuable in one context, while less so in another context or situation (Akaka and Vargo, 2014).

It is a combination of external and internal factors, which determine the use of ICTs. The technology enhancement process therefore appears not to be static (in favour or against ICTs usage), instead it is highly dynamic, depending on the larger environment in which the tourist experience occurs. This is consistent with recent work examining technology within value co-creation. In fact, the authors suggest that "*value of a particular technology (e.g., problem-solving process) is dependent on the context within which it is applied*" (Akaka and Vargo, 2014, p.372). As such, these factors underline the opportunities for services marketing and management to promote more agile resource integration between in the service context (Akaka et al., 2013) to account for the contextual variations that condition the experience enhancement process.

From a theoretical perspective, the emerged factors offer a holistic picture in having recognised the importance of contextual nuances in which the enhancement process is embedded. Rather than limiting the exploration to specific travel types or contexts, a broad and inclusive picture can be drawn of a wide spectrum of influencing factors. Figure 5-1 offers a graphical summary of the five factors with their embedded sub-dimensions. Having developed the contextual framework, the next section turns to present emerged 'tourist experience need situations', which individuals encounter and subsequently seek to address with ICTs.

Figure 5-1. Contextual and Situational Factors

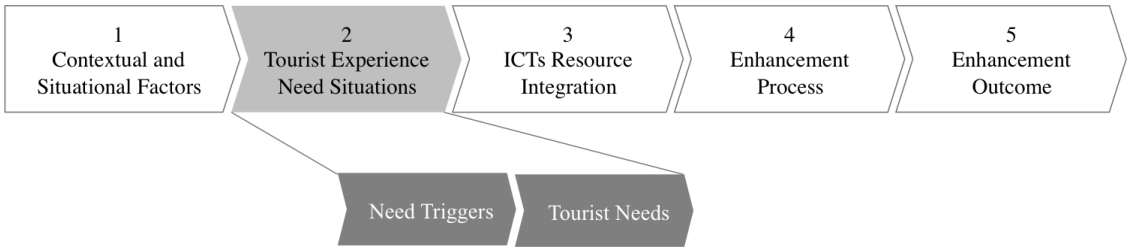


Source: Author

5.2 *Tourist Experience Need Situations*

The second theme of the experience enhancement process identified was '*tourist experience need situations'*. Within the wider travel context, it was found that tourists encounter specific situations, which trigger problems and in turn needs, for which ICTs are being integrated. ICTs have been recently portrayed as critical resources to create value and fulfil human needs (Vargo and Akaka, 2012), as well as solve problems and address information needs through smartphones (Wang et al., 2012). The findings showed that tourists, in the course of their travel process (pre/during/post-travel), find themselves in a wide range of situations, in which such specific needs emerge. The NVivo analysis revealed that such situations seem to be composed of a) an initial need trigger which results in b) the formation of a defined tourists needs, before ICTs are

integrated as a resource to address these. The two identified factors inherent in tourist experience need situations are outlined below.



5.2.1 Need Triggers

The qualitative findings indicate that tourists undergo a range of situations during travel, in which several tourist needs are triggered. Exploring these situations in detail was of particular relevance, as these provide the very starting point of the subsequently emerging needs and the resource integration of ICTs. Four main categories were identified in the dataset, including 1) *consumption*, 2) *contingency*, 3) *environmental* and 4) *psychological need triggers*.

Consumption need triggers

The first need trigger identified relates to needs that emerge within the context of tourist-related consumption activities. Participants described a range of situations in their pre-travel and during-travel stages, when they gather inspiration, make decisions, evaluate options and planning, in which specific problems occur and needs are triggered. For instance, tourists reported to often face difficulties, such as being confused with information, deciding between a vast choice of options or deciding between two seemingly equal options as well as having to review multiple offers. As an example, one participant noted that while having the desire to travel, choosing the right destination to go to is difficult. In such a situation, he commented, ICTs serve as an aid to eliminate the own insecurities associated with making a purchase decision, by gathering information and clarification in the decision-making process.

Additionally, participants explained that they are often confronted with consumption situations, in which they have to identify the financially cheapest alternative, make decisions under time pressure or get answers to travel purchase-related questions. Such instances include determining the least expensive option from a range of possible flights and hotels online, finding the best transportation choice, discovering the ideal restaurant in a destination or understanding which attraction to visit under given circumstances.

One participant exemplified a past experience of being in London and having to make a decision between two museum options under time-constraints, for which purpose the mobile phone was used:

> *"We were in London and for example we decided to go to the science museum or natural history museum. And in order to check which museum to go, we only had three hours so we sat on a table and understand what was most interesting for us." (Aaron)*

As a result of encountering these travel related questions and options, participants reported the value of using ICTs to eliminate some of the confusion in the decision-making and purchase process. ICTs enabled them to extract the truth between options, gather recommendations on the best available choice and validate initial information through additional knowledge resources. Two participants indicated how consumption need triggers might lead to specific information needs (e.g. consumer reviews), which are addressed by ICTs, as the following instances reveal:

> *"10 things of what people are doing there just to get an idea and then I use at ratings of the different restaurants or places I want to see, with the reviews to get a better idea of it." (Rachel)*

> *"I can see feedback from people that might be that they have been there before so I can see if they are happy or not happy, and having been at the place before, maybe I once or twice, I used TripAdvisor to seek a review for a pub and when they give like a 5 star, when they are basically really satisfied with the service, it gives you reassurance despite that it looks nice." (Teresa)*

Contingency need triggers

Contingency need triggers were identified as second trigger pertaining to instances, in which tourists face situations of difficulty or emergency within their tourist experiences. According to participant narratives, these mostly refer to occurrences of unexpected nature, which require an urgent solution. Such instances include transport delays, losing transport connections, being stuck in a specific place or having lost orientation in an unknown destination. In such urgent problem situations, tourists frequently report that a variety of needs (e.g. finding information or connecting to people) are triggered, which they seek to solve by using appropriate websites, platforms and applications.

For instance, more than one participant recalled the past tourist experience of being stuck abroad during the unexpected eruption of the Icelandic volcano Eyjafjallajökull, which caused significant stops and delays within the European air traffic. This

contingency situation of having to reschedule flight connections, triggered specific information needs. Participants in this and similar cases, described the need to access updated information about the current situation, airline responses and live-flight schedules, for which several ICTs came into place. In line with this narrative, further participants underlined how contingency situations represent a general trigger for communication, connection and social needs, which are often addressed through ICTs.

> *"For communication, so to make sure that I can call or contact someone just in case as an emergency." (Sam)*

> *"When the cloud of the Volcano had stopped Europe and you needed a lot of information... I was connected and looking for the source of information… to see what was happening." (Dan)*

> *"He was REALLY in trouble, he had no money, so what he did, and the good thing basically is that he had a smart phone, yes, and he was able to call everyone…I mean this is very important with technology because if you are stuck somewhere, your debit card is not working, your credit card is not working and you don't have cash money, but you have a phone." (Andrew)*

Additionally, it was found that contingency need triggers not only relate to unforeseen events and problems, but also concern time-sensitive matters and situations of urgency in general. Participants reported that they frequently encounter travel situations, which require finding information quickly, identifying time-sensitive transport connections or navigating to specific places under time pressure. Such instances frequently lead to information needs, as to check reviews before entering a restaurant, find live train departure information or get to a venue within a particular time. One participant introduced a past travel situation, when he was delayed and had to reach a specific location urgently, triggering information and navigation needs:

> *"I was already five minutes late, and I don't have the time to TRY other places... I knew I can do it without but I'm so used to do it with the Google Map that it is easier." (Aaron)*

Environmental need triggers

The third emerging dimension was 'environmental need triggers'. Such need triggers seemed to primarily appear in relation to the external environment, due to unknown places, local particularities and language barriers. Participants explained that in unfamiliar environments, they often require an increased amount of information, needed to develop a sense of orientation. Tourists use ICTs to reduce their insecurities caused

by language and communication difficulties and to address the lack of information and orientation in unfamiliar destinations. For instance, two participants reflected on their past experiences in foreign environments, which triggered specific information needs, addressed through the use of mobile devices on the spot.

> *"When I travelled some place with the sign not the characters, not like in word, because like within word you can type it in very easily in Google Translate and you can know, is this a toilet or a restaurant, but in some areas, with Chinese character you cannot type it, so I use a software and take the photo and they translate the photo." (Hanna)*

> *"I was not confident with the language and I was late, so the iPhone seems to be the quickest way to get to the point and not to ask someone." (Aaron)*

Psychological need triggers

The fourth type emerged relates to the tourist's individual psychological need triggers. In contrast to the need triggers identified above, psychological need triggers are embedded within the individual, rather than the external surroundings. While only a fairly small number of participants referred to travel situations stimulated by psychological triggers, it is important to recognise the existence of this category. This is in line with recent literature, recognising the tourist experience as highly subjective, due to its formation within the individual tourist (Selstad, 2007). This is supported by the findings, which indicate that tourists frequently encounter situations, in which they seek to eliminate specific personal conditions or fulfil certain desires relating to travel.

Such situations become apparent when tourists attempt to eliminate perceived boredom, address their desire for co-creating authentic local experiences, address the need to fulfil personal interests or gather information updates while being away from home. In addition, one participant explained that his personal health triggers specific dietary requirements, which he seeks to address by using ICTs to gather the necessary information on allergens in food during travel. Psychological need triggers thus appear to represent an important dimension that relates to the tourist's personal requirements. These often seem to create increased or at times very specific information needs. Two participants recalled tourist experiences with embedded psychological need triggers that were, or could be, addressed by ICTs.

> *"Maybe it was just something to kill boredom, that would be when I look for those kind of things." (Sam)*

"Everything that I do buy I have to read the label, but how cool would it be to do that in a restaurant, rather than just relying on the chef knowing what you mean." (Paul)

Overall, it appeared that the four identified need triggers give rise to a broad range of needs that tourists seek to address and resolve by integrating ICTs. Table 5-2 provides a summary of the need triggers and the respective aspects emerged in the NVivo analysis. These were divided into fulfilment (something tourists seek to achieve) and elimination (something tourists seek to avoid). The discussion now turns to outline the diversity of tourist needs, which emerge from these need triggers.

Table 5-2. Need Triggers

Need Triggers	***Aspects***	***Nr. Sources***	***Nr. References***
Consumption need triggers	Elimination - Insecurities buying commitment Fulfillment - Evaluation choice Fulfilment - Information consumption decision Fulfillment - Validation and double checking	11	33
Contingency need triggers	Elimination - Delay situations Elimination - Emergency - being stuck Elimination - Emergency - help needed Elimination - Loss of connection Fulfilment - Time sensitive matters	9	23
Environmental need triggers	Elimination - Insecurities getting lost Elimination - Insecurities language barriers Fulfilment - Disconnection Fulfilment - Escapism from everyday life Fulfilment - Lack of information environment Fulfilment - Lack of orientation environment	11	35
Psychological need triggers	Elimination - Boredom Fulfilment - Authenticity and local culture Fulfilment - Personal health Fulfilment - Personal interest Fulfilment - Pressure keep updated	5	13

Source: Author

5.2.2 Tourists Needs

Following the identification of need triggers, the analysis revealed the presence of several tourist needs. Three dominant types of needs have been identified, which include 1) *functional needs*, 2) *information needs* and 3) *social needs*.

Functional needs

Functional needs were identified as a tourist need of a functional, practical or utilitarian nature. It was found that travel situations trigger needs, such as calculating currency, translating information into the own language, finding unknown places, getting directions or navigating from point A to B in an unknown destination environment.

Functional needs are mostly stimulated by the external environment, contingency situations and consumption activities, based on which tourists need to use ICTs as a means to achieve specific outcomes. As the common premise, it appeared that technology is integrated in these situations, not because of its experiential aspects, but predominantly due to its functional features, which enable tourists to find quick answers and solutions to given situations. Two participants described instances of a functional need, in which they used ICTs to determine their position and to navigate to a location:

> *"I use technology like GPS. To find the position, the location first. Then I use the Google maps something like that, where should I go." (Andrew)*

> *"When you search for a particular restaurant or a particular place you cant really see or you cant really access with your common sense because you have never been there and then I would look it up on the mobile phone." (Jane)*

Information needs

The second type of need identified regards information needs. Information needs are well-established needs within the literature. This is because the tourism product is intangible and not testable before the physical travel (Buhalis and Jun, 2011). As a result, tourists often travel to unfamiliar environments (Brown and Chalmer, 2003), which they have limited knowledge about (Ooi, 2003). The findings reveal five main types of information needs in the context of the tourist experience, for which purposes ICTs are applied. These consist of 1) context information, 2) personal information, 3) place information, 4) up-to-date information and 5) variety of information.

First, context information emerged as a distinct category that determines information needs related to the tourist's surrounding and contextual environment. This includes context-dependent variables, such as the weather, temperature, time and local transport conditions. Depending on contextual changes, tourists require a different a set of information relating to these conditions. Closely linked to context-related information needs, personal information needs emerged as a second category. Participants revealed to require personalised information, which reflects their interests and needs at a given situation. The following examples indicate the use of ICTs to cater context and personal information needs:

> *"It would give me the right information and in the right context." (Jane)*

> *"A range of information that would suit my needs." (Teresa)*

"You just filter what you want and what you don't want. Maybe remember it should remember what you liked and what you don't like for the future." (Sam)

The third type of information need identified referred to place information. It was found that tourists require a wide range of knowledge when travelling in unfamiliar surroundings. This finding is consistent with recent work, which suggests the importance of a large variety of place information to navigate and find tourist locations (Tussyadiah and Fesenmaier, 2007). The findings confirm existing work, in that they highlight several place information needs, such as activities in the location and things to do in the immediate surrounding. For instance, a common statement among participants was that they use mobile and LBS applications not only to discover interesting points, but most importantly, to get the directions and navigate to these specific places. In addition to such information, participants also revealed the desire for information that exposes the 'best things to visit' and the 'real sense of a place' within a destination. One participant exemplified the use of mobile applications to understand the 'best things to do' in a place, as the following examples underline below.

"As I was saying before about the London Eye, something that assists me in understanding what is the best choice of things around me." (Aaron)

"It is kind of a support in terms of maps and kind of getting information on site and everything." (Rachel)

The fourth category identified refers to up-to-date information needs. It was found that participants frequently undertake travel activities, which due to their time-sensitivity require access to current, up-to-date and real-time information. This is in line with scholars confirming tourists' common needs for timely information while travelling (Tussyadiah and Fesenmaier, 2007). The findings suggest that up-to-date information needs are closely related with contingency need triggers, such as unforeseen situations, travel changes and emergency situations (section 5.2.1). In addition, the findings revealed that the need for up-to-date information is not only about urgent matters. In fact, it is also about tourists' desire for current news, offers and deals from service providers, most recent reviews and information about current events and opportunities that are happening at a destination. In this context, participants described ICTs as critical to access updated information through Facebook, Twitter, event, news or DMO websites and platforms. The following experience narrative reflects such an example:

> *"Being up-to-date, even during my travel and in Amsterdam I also used Twitter to see what is around and because Amsterdam is really hip, and then I just put hash-tag Amsterdam and I could see plenty of events going on." (Teresa)*

Beyond the specific information requirements identified above (context, personal, place and up-to-date), the findings also provide novel insights that tourists integrate ICTs especially to fulfil their need for a *broad variety* of information. This need emerged as a recurrent theme in the qualitative narratives. It is not only the content of the information that matters. Participants explicitly emphasised that the variety of information accessible through technology plays a major role. For instance, participants revealed the need for additional information (e.g. to complement offline sources), filtered and reduced information from the mass (e.g. filtered summaries and suggestions based on thousands of reviews) and verified and evaluated information (e.g. hotel rankings based on consumer evaluations). Furthermore, it was found that holistic, rather than partial, information and in-depth, rather than shallow overview, information is critical to get a full picture of complex travel decisions and situations. One participant, exemplary of many other narratives, provided the following statement in relation to this need:

> *"Half of the reviews are negative and half of the reviews are positive then I go to another website and try to get a better impression about that. But normally this advice is for me to make a decision." (Steve)*

The emerged information needs seem to corroborate with recent work, suggesting the value of ICTs in offering information based on specific needs, such as personalised or context-based knowledge (Wang et al., 2012). Specifically, it becomes apparent that tourists have five main information needs, which they seek to address within their tourist experiences. By accessing various tools, such as websites, social media, location and context-based services, tourists have critical knowledge resources. These allow them not only to select the specific content-related information they precisely need, but also to access the extent, depth and comprehensiveness of information needed.

Social Needs

Social needs were found as the third tourist need category in the enhancement process. Social interaction, encounters and human relations constitute an essential part of travel (Volo, 2009). Conforming with, and expanding on, this view, the qualitative interviews reveal the presence of several social needs, which manifest themselves in two main ways. These include a) the avoidance of specific social contacts and b) the desire for

particular social contacts during travel. With reference to the former, participants underlined their desire to deliberately avoid social interaction in some cases. In such cases, they favour their ICTs tools and devices over social engagement with locals and service providers to manage specific tourist situations.

The opposing theme reveals that tourists encounter several situations, particularly during travel, in which social engagement is sought after. For instance, participants emphasised that they would like to communicate with locals, stay in touch with home and stay connected with the travel party, when temporarily separating in the destination. In this case, ICTs are not used as a means to avoid social contact. Instead, they are used as a facilitator to connect with companies, the own social network and people at home. A further interesting insight points to novel social needs that emerge only through the use of ICTs. For instance, participants report social needs in terms of checking-in online (e.g. through Facebook, Foursquare or other LBS), keeping entertained and updated (e.g. through social media) and posting and sharing positive and negative tourist experiences (e.g. with the connected social network). The following statements underline the contrasting range of participant narratives pertaining to the social needs and ICTs use in their tourist experiences.

> *"Only if there is an extreme needs, or I need additional information that I cannot find somewhere else, then I turn to local people." (Sandra)*

> *"I use technology just occasionally when I want to stay in touch with my family and friends but just really selective not every day the whole day but maybe once or twice a day."(Jane)*

> *"I wanted some interaction, I just wanted to talk or just have something to experience to share with how funny it is." (Sam)*

The findings suggest that tourists encounter many need situations during travel, in which ICTs are used to enhance specific needs and in turn, the tourist experience. The findings seem to confirm recent work, in the sense that needs are often related to classic tourist activities, such as navigating, finding places, planning or gathering information (Wang et al., 2012). Beyond these tasks, novel insights have appeared, suggesting that tourists use ICTs within their tourist experiences to address several *functional* needs, a large variety of *information needs* and *social needs*. Table 5-3 provides an outline of the different tourist needs and their associated sub-categories.

Table 5-3. Tourist Needs

Tourist Needs	*Categories*	*Nr. Sources*	*Nr. References*
Functional needs	Calculating currency exchange Translating languages Finding the way quickly Navigating unknown destination	11	28
Information needs	Context information: weather, temperature Personal information: relevant to individual Place information: local proximity Up-to-date information: events, news, offers Variety information: in-depth, additional	15	252
Social needs	Avoiding social contact Checking-in online Keeping entertained Connecting and haring experiences	10	24

Source: Author

Summarising this section, with need triggers and tourist needs inherent, the following conclusions can be drawn. Within the tourist experience, tourists encounter numerous situations that cause need triggers and needs to emerge. Tourists are detached from their everyday life and might visit unfamiliar destinations within a short period of time. In this particular contextual situation, tourists undertake numerous activities and often experience a lack of geographical knowledge. As a result, distinct needs emerge, which are often solved by implementing mediators (tour guides, guidebooks, technology) to make life easier (Ooi, 2003). In this case, ICTs are integrated as valuable resources for instance, to translate language, to access context, place or up-to-date information or to connect to a safety network in order to rectify problems. By doing so, tourists respond to an initial need trigger and address emerged needs to enhance their tourist experience.

To explore a potential relationship between *need triggers* and *tourist needs*, an NVivo Matrix Coding query analysis was conducted. Unlike quantitative correlations aiming to test for statistical significance (Tabachnick and Fidell, 2001), qualitative relationships merely represent an indicator of patterns suggesting how specific codes are related (Bazeley, 2007). In this sense, frequencies play a minor role. The relationships can offer interesting insights into how specific nodes are conceptually related and could possibly explain a possible cause-effect relationship. Table 5-4 reveals three main relationships (1-B, 3-A, 2-B), represented by the frequency of NVivo codes, highlighted in dark grey.

The most salient relationship appears to emerge between consumption need triggers and information needs (19), which suggests that tourist consumers have a high level of information needs in the consumption process. In this particular situation, intense

information search, evaluation of options and finding recommendations for choosing the best option are needed, before proceeding with the purchase decision. The second salient relation seems to appear between environmental need triggers and functional needs (11), which could be indicative for tourists navigating in unknown environments, which require them to manage various functional tasks in order to find and navigate to locations. The third main relation connects contingency need triggers and information needs (6). This result underlines the potential relationship between emergency, contingency and time-sensitive scenarios and the closely linked need to access information through ICTs to cope with such situations.

From a tourism service provider perspective, knowledge about the links between need triggers and tourist needs is important. It could enable providers to anticipate which kind of tourist need situations are likely to occur and which kind of needs might emerge. Based on that, appropriate ICTs resources might be facilitated that allow tourists to address their needs and, by doing so, assist and enhance their experiences. Having examined tourist experience need situations, section 5.3 turns to introduce and conceptualise the findings pertaining to ICTs resource integration in the experience.

Table 5-4. Relationship Need Triggers and Tourist Needs

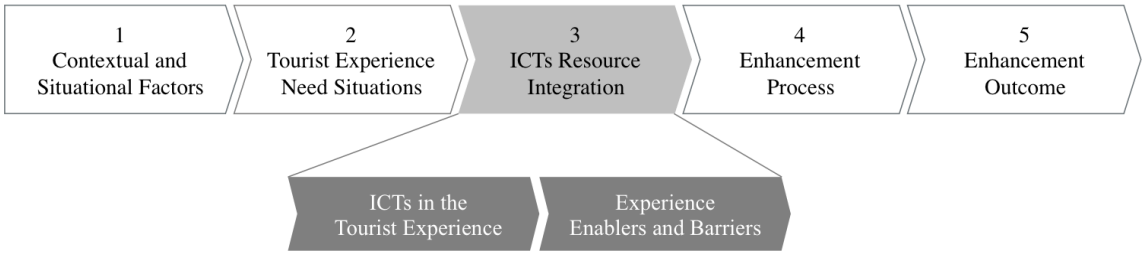
	A: Functional Needs	B: Information Needs	C: Social Needs
1 : Consumption need triggers	2	19	0
2 : Contingency need triggers	3	6	2
3 : Environmental need triggers	11	4	0
4 : Psychological need triggers	0	5	1

Source: Author

5.3 *ICTs Resource Integration*

The third theme identified regards ‘ICTs resource integration’ within the tourist experience enhancement process. Embedded within the contextual and situational framework (section 5.1) and the specific tourist need situations (section 5.2), this section presents the precise role of ICTs in enhancing the tourist experience. ICTs, in particular mobile technologies, have been described as an instrumental resource for value creation (Vargo et al., 2008; Akaka and Vargo, 2014), which alters the way tourist experiences are created (McCabe et al., 2012; Wang et al., 2013; Tussyadiah, 2014). In analysing a wide range of tourist experience narratives (Research Phase 3), the findings contribute to knowledge by shedding light on the detailed characteristics of ICTs.

Thereby, two main insights are presented, a) the integration of ICTs into the tourist experience and b) technology enhanced experience enablers and barriers. The first part presents the factors relating to the attitude towards ICTs and the evaluation of traditional resources versus ICTs, before revealing the types of ICTs that are integrated and offering a resource adoption hierarchy. The second part reveals the existing technological barriers and enablers that currently hinder and facilitate the effective resource integration of ICTs into the tourist experience respectively. While a large part of the findings focuses on the tourist experience, its enhancement and creation, this section adds an important aspect to knowledge in that it specifically unravels ICTs as the *operant resource* at the centre of the *Technology Enhanced Tourist Experience*.



5.3.1 ICTs in the Tourist Experience

The S-D logic recognises resource integration as a dominant premise for mutual service and value creation (Akaka and Vargo, 2014; Lusch and Vargo, 2014). Tourists, as so-called resource integrating actors (Vargo and Lusch, 2011) adopt a range of mediators to facilitate and enhance their experiences (Ooi, 2003). The findings highlight ICTs integration in the tourist experience, which can be explained through three factors. These include 1) tourist attitudes towards ICTs, 2) resource evaluation of traditional resources versus ICTs and 3) the types of ICTs integrated.

5.3.1.1 Attitude towards ICTs

Attitude towards ICTs was found as an emerging factor when participants talked about the integration and use of ICTs. Thereby it is important to note that such narratives did not refer to general user attitudes towards ICTs. Rather, the findings reveal the specific attitudes that participants have towards ICTs in the frame of the tourist experience. Several underlying negative and positive attitudinal aspects were identified.

Negative Attitude

It was found that a number of negative manifestations of attitude towards ICTs use in experiences were present among participants. This is an interesting insight, considering

that only technology-savvy users represent the sample. Negative attitudes emerged on three main levels, including a personal, contextual and technological level. It appeared that attitude is shaped by the individual's relationship with ICTs. Some participants described a personal preference of human interactions over the use of ICTs and a reluctance to use ICTs within their experiences. In a similar vein, other participants described a personally reluctant attitude towards experimenting with new ICTs in their experiences, due to their own unfamiliarity and insecurities with advanced technologies, such as specific mobile or augmented reality applications.

Additionally, it appeared that not only the own preferences, but also the level of ICTs adoption within society and the own social sphere plays an important role in one's attitude. Some participants described that when ICTs become mainstream, either within society or within their own social circle, and specific device brands or applications are over-used, it would keep them from personally using such ICTs in everyday life and travel. For instance, as everyone seems to post pictures of trips on Facebook or Instagram, participants reported to be likely to reduce such use during travel to be different to the mass.

Within the personal sphere, it was found that participants seem to have a negative attitude towards ICTs use during travel (unlike pre-travel and post-travel), due to their strong use of technology for everyday work and life. As participants heavily use technology in the mundane life, several narratives indicated the willingness to use ICTs was rather selective, or limited in other cases. In addition, it was found that personal concerns about privacy issues and location disclosure is a factor that negatively influences the individual's personal attitude towards using ICTs for experiences. Participants voiced their concerns when applications track their location or they check-in online, providing the social network with information about the current travel location and, perhaps more importantly, the information that they are away from home. The following quotes underline the attitude towards ICTs in the tourist experience:

> *"It's very new and I don't know how to use it. I worry that it is too complicated. Maybe my familiarity is not enough." (Veronica)*

> *"It is a, it seems like there is MAINSTREAM and when it is mainstream then everyone is uses it… When there is MANY people using it is even worse." (Sam)*

> *"I'm actually still a bit scared to use location based services. Just for privacy reasons. I know I shouldn't be concerned." (Laura)*

On a contextual level, it was found that participants have a reluctant attitude towards using ICTs in specific tourist situations. For instance, participants highlighted that they feel negative or hesitant towards ICTs, when there is no need or only limited need for their use. Some participants noted that they prefer living the 'real experience'. They want to feel physically immersed in the destination, rather than using ICTs to potentially disrupt such an experience, which is in line with the notion of ICTs as a resource that can co-destroy, rather than co-create, value (Chandler and Vargo, 2011).

Closely linked to the context, it was found that participants sometimes express a reluctant attitude towards ICTs use within their experiences because of the technology itself. For instance, participants reported that they tend to avoid using ICTs when the application or device is perceived as intrusive, dominant or scary. This is also closely related to the social perception and acceptance of use. For instance, one participant described his personal reluctance towards augmented reality, due to its peculiar usage (holding-up the device) and the consequent social perception (that the process of doing so might look strange). The following participant statements underline such perceptions that consequently shape the attitude towards ICTs within the tourist experience:

> *"But not during. It is sometimes, it is just annoying. It is just, you wanna travel and you can simply ask, you can get the brochure. I'm very traditional in this case." (John).*

> *"Sometimes but not most of the time, not all time. I like to setting my Foursquare or any other location based services, just in that specific moment, not always integrated from Facebook to Twitter to Foursquare because it is kind of creepy if people always know where you are." (Teresa)*

> *"First, it looks like you are a nerdy, like a weirdo, you always raise your hand and doing this. " (John)*

Despite a high level of technology-savviness, it was interesting to find that tourists voiced several narratives that indicated an underlying hesitant attitude to integrate ICTs in the tourist experience. However, the majority of participants reported positive attitudes towards ICTs throughout their interviews, as outlined next.

Positive Attitude

Similarly to the negative attitude, the positive attitude towards ICTs integration related mainly to personal, contextual and social variables. On a personal dimension, participants expressed a positive approach to, and in some cases, fascination with the

potential of ICTs use in their experiences. For instance, participants voiced a high interest in, and willingness to, adopt and experiment with technologies, especially when they are new, little known and upcoming. Augmented reality applications and wearable technologies, such as watches and glasses, were among the mentioned ICTs that participants were keen on trying in order to enhance, and perhaps, even create novel tourist experiences. Beyond the personal inclination to embrace new ICTs, participants also revealed that their positive attitude towards ICTs use in travel is also grounded in their identification with technology. For instance, one participant explained that using new or fancy technologies is like making a 'lifestyle statements'. The following statements reflect such positive attitudes towards using and trying out new ICTs.

> *"It is a tool to do a particular job but ACTUALLY it is more than that. It is like, a car will get you from A to B but a car is a bit a statement about yourself as well." (Paul)*

> *"I will try. I think it is more to come, I will buy the glasses if they look like very normal glasses, yeah." (John)*

Tourist consumers' attitudes are driven by several personal, social, technological and contextual factors, which are interwoven and influence a positive or negative inclination towards ICTs use within the tourist experience. The understanding of such attitudes is important, as it helps explain why some tourists might or might not use ICTs. This has critical implications for services marketing as to use this knowledge to facilitate the right resources that reflect tourists' personal attitudes. For user-centred design, this knowledge could help decrease negative attitudes, by making applications more intuitive, less disruptive, ensuring privacy settings and developing technologies as interesting lifestyle tools. Having revealed prevailing attitudes, the findings present the tourist's evaluation of available resources in the tourist experience next.

5.3.1.2 Resource Evaluation: Traditional Resources versus ICTs

The analysis of the qualitative interviews indicates that a diversity of resources are integrated within the tourist experience. In examining the findings through a S-D logic lens (Lusch and Vargo, 2014), it was of particular interest to shed light on the specific types of resources that tourists integrate within their experiences. While operand and operant resources, such as knowledge, skills and competences are recognised (Akaka and Vargo, 2014), the main scope was to focus on the integration of ICTs. In drawing upon the experience narratives, it was however found that participants frequently

referred to ICTs integration in relation to the use of traditional resources. This is an interesting insight, as it suggests that ICTs might not be the first choice in the tourist experience enhancement. Rather, it appears that an active 'resource evaluation' occurs, in which tourists consider which resources are available and which ones to take action upon (Vargo and Akaka, 2012).

The findings reveal that the majority of participants talked about using 'traditional resources'. Such resources seemed to primarily refer to offline sources, including print material, guides, maps, books, street signs, direct communication with people and traditional, analogous technologies. In this vein, it was found that tourists seem to compare the possible value proposition from integrating these resources in contrast to ICTs. While an exploration of the detailed integration of traditional resources was mainly beyond the scope of the study, a few insights shall be mentioned to provide a full understanding of how tourists evaluate their resource integration. For instance, it seemed that the use of traditional resources implied a sense of adventure and the feeling of 'getting lost', which would diminish, if ICTs as mediating resources came into place.

Participants also reported the value of using traditional resources, as a means to diversify tourist experiences (change between technology and non-technology resources), inverse their technology-reliant behaviour and use traditional resources as tools to complement ICTs. Beyond the value emerging through their use, participants emphasised the characteristics of traditional resources, which acted upon, provide distinct value. These include the organisational structure, edited and concise content, instead of mass and consumer-generated content and the physical benefits of carrying a paper map, book or brochure as a backup. Two participants underline this distinct value:

> *"Yeah I always like to have a paper map with me even if I don't use it." (Dan)*

> *"But sometimes with the technology, but I also buy the book of the place or the country because sometimes the book can collect everything and the best, and it is edited so I like it." (Hanna)*

Participants seem to evaluate potential drawbacks from using traditional resources in contrast to ICTs. For instance, it was found that the lack of convenience, the effort of carrying physical materials and the information relevance (out-dated information) are perceived as limitations, based on which reason, ICTs are used instead. The following interview statements exemplify the limitations of traditional sources.

"Lonely Planet, I find it extremely boring, the information is just boring. The other thing about a printed guide it gives you information about currency and bank opening, stuff that you don't just need but it is in there anyway." (Paul)

"The idea of when I get lost and having to find a visitor information that kind of thing is some kind of hassle for me. I mean if we have a specific enquiry then we might visit, but I don't know, if you can't see them around it is always easier to use your mobile phone to get specific information." (Teresa)

"You save space and time (laugh) yeah, a guide book is SOOO OUTDATED sometimes, you like print that, maybe the price of the hotels, this is the thing, hotels, tourist attractions have already changed, yeah." (John)

Overall, it appeared that tourists evaluate the potential value that can be created by integrating traditional resources or ICTs in the tourist experience. In fact, the integration of resources might differ and is dependent on the individual as the integrator and the contextual situation, in which resources are used (Prebensen et al., 2013). Furthermore, it was found that participants, when narrating past experiences, would often refer to the integration of 'first choice' resources and 'second choice' resources for specific needs. For instance, tourists frequently use Google Maps as their first choice. In case it fails to provide the necessary results, then direct communication with people or the use of traditional paper maps appears to follow. Diversely, for participants, who prefer the integration of traditional paper maps to ICTs in the first instance, would use Google Maps in case the 'basic way' of finding a location fails. Similar patterns emerged with respect to websites, social media and print media, which are integrated in a varied order.

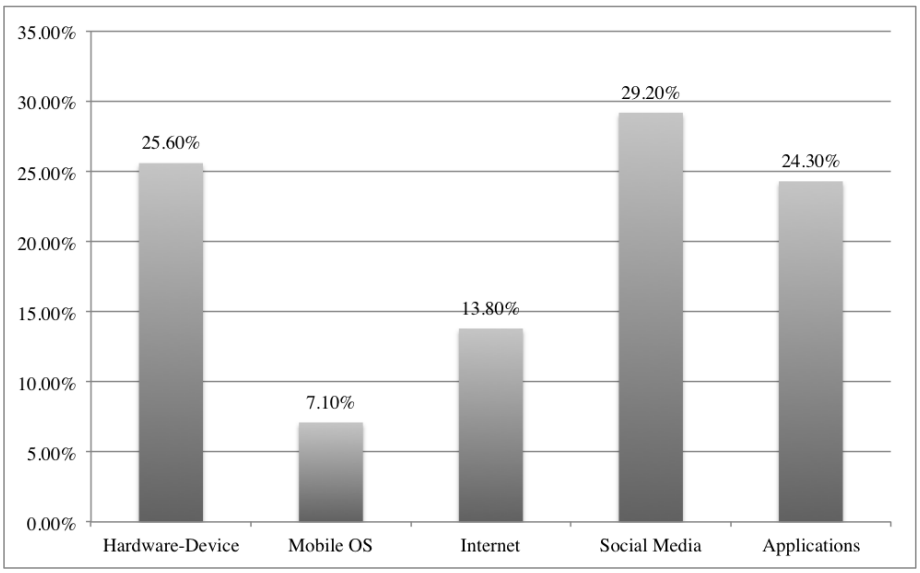
As these insights have only been touched upon, the findings may suggest an underlying hierarchy, in which resources are integrated. Such avenues could provide opportunities further services marketing research. From a practical perspective, it is also important to understand that resource integration is not an absolute decision, but possibly depends on the context, the need situations and the types of resources available. This means that tourism organisation could produce destination brochures and books for the purpose of providing a general overview, while up-to-date information, events or price information might be better communicated through websites, platforms or mobile destination applications to meet current information needs best.

5.3.1.3 Types of ICTs in the Tourist Experience

The findings reveal that a range of ICTs are integrated as resources into the tourist experience. It was important to identify which types of ICTs come into use specifically.

It was found that participants refer to five main categories of ICTs when talking about their tourist experiences. These were categorised into a) hardware devices, b) mobile operating systems, c) Internet, d) Social Media and e) mobile applications (see Figure 5-2). In examining the number of sources (citations coded), it was found that social media account for the most commonly mentioned type of ICTs (148 sources/29.20%), followed by hardware devices (130/25.60%), mobile applications (123/24.30%), while the Internet and Internet tools (70/13.80%) and mobile operating systems (36/7.10%) represented the types of ICTs mentioned least frequently in experience narratives. What is interesting about this figure is not how the distribution of ICTs relates to actual use numbers. Rather, it is about understanding the dominance of specific ICTs within tourists' narratives when talking about the enhancement of their experiences.

Figure 5-2. ICTs Integration in the Tourist Experience



Source: Author

In line with the study's claim for a holistic understanding of the *Technology Enhanced Tourist Experience*, it was important to extract which specific ICTs are integrated in the tourist experience. As a large proportion of existing work has explored single ICTs types or media, such as videos, mobile guides, smartphones or social media in tourist experiences (Tussyadiah and Fesenmaier, 2007; Tussyadiah and Fesenmaier, 2009; Xiang and Gretzel, 2010; Wang et al., 2014a), a broader view of ICTs has remained missing. The micro-coding process of the dataset (section 3.6.4.4), allowed for a differentiated knowledge about the dominant ICTs present in tourists' narratives.

A broad mix of ICTs was identified, which ranged from mobile devices and artefacts (QR codes, Google Glasses, NFC technology), mobile operating systems, Internet platforms, specific social media (Pinterest, TripAdvisor, Instagram) to mobile applications (gaming, transportation, AR, LBS). The presence of the great diversity of ICTs in the tourist experiences underlines two aspects. First, it indicates that previous work studying the impact of single ICTs (e.g. smartphones, virtual worlds, videos, LBS) on the tourist experience (Tussyadiah and Fesenmaier, 20007; Wang et al., 2012), only provides a partial, and thus limited picture, of ICTs integration in this context. Second, as a result, the scope of this study is affirmed to explore the entirety of ICTs in revealing the specific resources integrated in the enhancement of the tourist experience. Table 5-5 provides an overview of ICTs, classified by type and alphabetical order. The next section outlines the enablers and barriers of ICTs use in the tourist experience.

Table 5-5. ICTs Types Integration in the Tourist Experience

Hardware-Device		***Mobile OS***		***Internet***		***Social Media***		***Mobile Applications***	
All-in-one devices	5	Android OS	6	Cloud Storage	1	Blogs	2	AR Applications	9
AR Contact lenses	1	Apple OS	9	Email	4	Facebook	15	AR Gaming Applications	2
Audio guides	1	Blackberry OS	4	Messenger	1	Foursquare	5	Banking	1
Desktop PC	2			Google Search Engine	6	Google+	2	CBS (Mood)	1
Google Glasses	7			Skype	2	Instagram	4	Communication (Whats App)	4
Hologram	1			Trip Planner	1	Linkedin	7	Functionality Apps	5
Kindle	2			Websites	12	Pinterest	2	Gaming	2
Laptop	6			Wi-Fi	5	General SM	9	Information	3
Loyalty card	1					TripAdvisor	11	LBS (Destination)	6
Mobile Phone	15					Twitter	13	Maps-Navigation	9
Mobile Tablet	7					Wikipedia	1	News	4
MP3 Player	1					YouTube	2	Photography	2
NFC	1							Social Networking	4
QR Code	2							Translation	3
SLR Camera	2							Transportation	7
								Travel	6
Summary									
Participants	15		11		14		15		15
Sources	130		36		70		148		123
Percentage	25.6%		7.1%		13.8%		29.2%		24.3%

Source: Author

5.3.2 Tourist Experience Enhancement Enablers and Barriers

In exploring the integration of ICTs into the tourist experience, it was found that several technological enablers and barriers facilitate and hinder the enhancement of tourist experiences, respectively. This section outlines the emerged 1) *experience enablers* and 2) experience *barriers*, before revealing how barriers affect tourists' abilities to use ICTs within the tourist experience, by revealing 3) *barriers and their consequences*.

5.3.2.1 Tourist Experience Enhancement Enablers

Several technological enablers were found to contribute to the enhancement of the tourist experience. The findings reveal three factors, which were divided into 1) *software*, 2) *telecommunication and infrastructure* and 3) *usage and usability* enablers.

Software Enablers

The first factor refers to software, determining the functionalities of applications that tourists regard as critical for experience facilitation. Participants reported the need for a software that allows accessing, gathering and managing a range of tourist-related information. Furthermore, participants highlighted that their tourist experiences significantly improve, if applications allow for push information (which is automatically sent to the user without having to look for it). Participants also highlighted the value of delivery of personalisable information, which can be filtered based on pre-defined preferences, such as interests, activities and points of interests. Several participants described push information as a main experience enabler, leading not only to more effortless, but also to unplanned, however personally relevant, experiences, as the following narratives underline.

> *"NOW the information finds me…instead of you looking for the information the information is looking for you." (Dan);*

> *"Something that is interesting there and I didn't know that and I didn't get it from the map. Maybe for example if there is a drum shop, like I like music, and I can't get that from the map." (Sam)*

Moreover, specific content requirements were found to be a key software feature to enhance experiences. A commonly mentioned key enabler represents the functionality to access a variety of information in one place. Rather than having to take multiple devices for several purposes, participants highlight the value of integrating one single

device or application that allows gathering all the necessary information. Context dependent, applications need to provide consumer reviews, directions, in-depth and location-relevant information on sights, or push and pull information relevant to current needs. On a functional level, the findings highlight intelligent learning as a key feature to increase the tourists' ability to have more hassle-free and pleasant experiences. Participants reported that they wish that technology could learn their personal preferences, would recognise frequent consumption patterns and could make relevant suggestions for travel. Such features would not only save time and effort in searching for information. They could also generate relevant recommendations that are automatically provided based on the tourist's current situation each time of use.

Beyond the prerequisites for information retrieval, it was found that participants value speed and one-click availability of information, which can make a major difference in their experiences. For instance, tourists often encounter situations, in which they need to have fast and easy access to information, especially when they are on the move. Thereby, speedy task completion was a feature noted as particularly valuable to avoid unnecessary interruptions and address instantaneous needs, such as decision-making, purchasing and finding directions on the go. One participant recalled how an airline application has led to the positive enhancement of her overall airport experience through a 'one-click' check-in functionality.

> *"I can open the application and do one click and I'm in my flight because through this application I'm already checked in so with one click I can find out about my flight whereas with my computer I need to first start, then I need to start the internet explorer and then I need to find the website, then I need to log in, so it is so much longer."(Martha)*

Telecommunication and Infrastructure Enablers

The second technological factor enabling the enhancement of tourist experiences regards the telecommunication industry and infrastructure provision. Infrastructure was found to be an essential prerequisite that has a major impact, not only on the potential enhancement, but most importantly, the basic facilitation of a range of tourist activities. Participants described that the availability of 3G and 4G coverage, affordable Internet access, roaming and the anticipated elimination of roaming within Europe are key enablers that shape to what extent technology enhanced experiences become possible. Moreover, the availability of Wi-Fi hotspots and free Wi-Fi provided by the tourism service providers (restaurants, bars, hotels and public transport) or public places, play a

crucial role in shaping experiences that require Internet access. Only if such features are provided, participants can undertake certain tourist activities to their full extent. For instance, without Internet access, tourists cannot connect to their social networks, share experiences in real-time or get directions on the spot. One participant exemplifies the value of Wi-Fi and the implied ease of gathering information while travelling:

> *"For example if I'm in London and it is extremely good covered…so I jump from one bar to another to try to connect to the Cloud to try to find information." (Aaron)*

Usage & Usability Enablers

The third experience enabler emerged regards the usage, ease of use, usability and usefulness of ICTs. Beyond the mere availability of ICTs, participants described the effortless usage of applications as a key enabler that encourages them to use tools during travel. As most important attributes, participants expressed the need for ease of access to information, the ease of connecting to social networks and the ease and pleasure of using applications and devices. For instance, an intuitive usability was reported as critical by participants to perform activities fast, without investing extensive time during travel to comprehend how travel applications might work. Moreover, the usefulness of applications was found to be essential to positively enhance the tourist experience. In fact, participants claimed that if ICTs applications are useful and offer a range of functionalities, traditional resources, such as books and maps, are no longer needed and 'can be left at home'. One participant captured how the usefulness of a travel application substituted the need to communicate with strangers and enhanced her tourists experience in reducing the 'trouble' (perceived effort) of finding information:

> *"Technology is more convenient because I click, I type and I will get the information instantly. So this is still my first choice, but of course I can still ask the people, stranger A, stranger B or just to go to ask friends, you know call for example. But it will be a lots of trouble." (Veronica)*

5.3.2.2 Tourist Experience Enhancement Barriers

Beyond the technological enablers that contribute to the possibilities of using ICTs for tourist experience enhancement, several barriers were identified. These related to four main factors, including 1) *hardware*, 2) *software*, 3) *telecommunication and infrastructure* and 4) *usage difficulties*.

Hardware Barriers

The first type of technological experience barrier identified relates to the prevalent technological insufficiencies on a hardware level. The findings indicate that hardware issues represent main hurdles that keep tourists from using devices during travel and their experiences. The most dominant issues reported regard the availability of appropriate devices, the use of out-dated technology for travel, battery deficiencies and battery-consuming travel applications. For instance, participants report that battery issues limit the possibility to use devices for a long duration. This seems to be particularly problematic when exploring a destination for the whole day or going to camping sites. In such cases, tourists are forced to refrain from using applications in order to maintain battery life. Moreover, the size of devices and screens has been described as a major barrier that limits ICTs use within the tourist experience. For instance, too small screens limit the possibility to read information, while too large screens and devices are too heavy to carry around during travel. Overall, several hardware related barriers represented a main concern, as outlined by participants below.

> *"I like the phone and the possibility because it is very light but the problem is that I don't like really typing on the screen." (Steve)*

> *"It's an older phone, which means it is slow. I can download apps but I don't have many apps on there… Then my phone won't last even for a day." (Laura)*

Software Barriers

Software limitations of platforms and applications (maps, navigation and location-based services) were identified as a further main barrier that can significantly limit tourist experience enhancement. Among the most prevalent issues, participants reported that applications are often too slow, have incorrect or inconsistent functionalities and pose information and content problems. For instance, participants highlighted the need to find information when walking in unknown places or visiting a destination for the first time. The accurate functionality of maps is thereby essential to get to the desired point of interest. Frequently, however, applications fail to do so, as they take too long to load, cannot identify the current location or provide inaccurate geographical positioning. In these cases, tourists seem to abandon ICTs and go back to traditional resources (asking people, road signs and paper maps) instead.

Furthermore, participants indicated that they seek to use applications to gather information for better experiences, but are often confronted with content hurdles. For instance, these include the overrepresentation of commercial and supplier-produced information in travel apps (rather than user-generated content and local insights), the problematic display of too much information, confusing and illogical content structures as well as exaggerated frequencies of push information transmitted to users. These issues were found to be an important reason as to why tourists stop using ICTs and rely on traditional resources and material instead. The following comments provide insights into common software barriers:

> *"An error and saying "oh no your location is actually not available". This is really distracting and then I shut down all the technology and go back to the roots." (Jane)*

> *"When you download a lot, sometimes it is so messy, so I also carry that book in case, like to find a list of restaurants." (Hannah)*

Telecommunication and Infrastructure Barriers

Issues in the telecommunication infrastructure were found to be the third, and perhaps most significant, barrier to experience enhancement. The analysis revealed that the lack of Internet abroad (international travel), lack of network (rural contexts, camping and hiking) and limitations of infrastructure in developing countries (network coverage and Internet availability) pose major problems that affect the tourists' ability to use ICTs for experiences. In a similar vein, the shortcomings in free Wi-Fi provision by tourism destinations and service providers (e.g. destinations, public transport, airports and hotels) were found to be another key barrier to experience enhancement. Due to the lack of free Wi-Fi, participants felt considerably limited in that they could not connect to their networks, access real-time information or share experience online.

Additionally, participants pointed to the significant financial burden associated with the need to purchase mobile Internet packages, pay for roaming abroad or acquire expensive Wi-Fi access. Such expenses were reported to restrict the scale to which tourists can use certain applications during travel. The following two narratives provide insights into how tourists handle a lack of Internet/Wi-Fi and how this affects their tourist experience. The first participant was not able to access key information at all, while the second participant meticulously prepared the online map for offline use before travel, rather than accessing the information needed through free Wi-Fi on the spot.

"There is the Eiffel Tower and then from the Louvre to Notre Dam, and then plan the route in the city. As there are roaming costs we didn't use it." (Jane)

"I load it beforehand and then I just have to take it out. And I know where I have to go, so it is kind of just loading the map with the streets, in case I get lost." (Rachel)

Usage Barriers

The fourth experience barrier identified concerns general usage difficulties of ICTs. According to participant narratives, these primarily relate to usability problems, such as inefficiency of applications, slow speed of systems and difficulty of use. Participants also reported a limited usefulness of numerous travel applications, due to the lack of offline availability, which is particularly critical when Internet is unavailable. In addition to usage barriers, participants also highlighted issues that arise through the use of mobile devices during travel. It was found that the physical effort required to use ICTs was often described as a major interference with the actual experience. For instance, participants stated that carrying around multiple devices whilst on the move (e.g. iPhone, iPad, camera and kindle), holding and pointing with technology (e.g. taking pictures or using augmented reality) implies barriers that limit the pleasure of using ICTs to potentially enhance tourist experiences.

"There hasn't been something that I found that is EASY carry-able that I can take around with me to use." (Sam)

"Sometimes it is getting really on my nerves, all this carrying around and all looking up and what is this actually." (Jane)

"I mean with the mobile phone and you need to augment it. Holding in my hand, yeah that is annoying." (John)

5.3.2.3 Tourist Experience Enhancement Barriers and their Consequences

Summarising the identified experience enablers and barriers, it appears that the enhancement of tourist experiences through ICTs is (still) characterised by a number of technological issues that have a significant effect on the extent to which technologies can be effectively integrated and used as resources. It was found that participants have not only acknowledged a range of barriers, but also discussed implied consequences of such barriers on their ICTs use behaviour, and in turn, the possible enhancement of their tourist experiences. The analysis of these narratives revealed four main consequences,

which have been coded as 1) emotional *responses*, 2) *missed opportunities and limitations*, 3) *behavioural consequences* and 4) *monetary burden*.

Emotional responses

It was found that technological issues can trigger several emotional responses in tourists. For instance, participants reported several adverse feelings, such as anger, disappointment and dissatisfaction as well as feelings of uncertainty and agitation when ICTs are unavailable or cannot be used. Anger has been reported as a common response to ICTs usage difficulties and issues. It is manifested not only in annoyance and frustration with the technology itself, but also in feeling upset because of the additional problems ICTs cause, rather than resolve. Participants also commonly reported to feel disappointed as a result of technological issues. This feeling includes sadness (about not being able to complete a specific task), emptiness (when ICTs are unavailable) and regret (not having access to information that could have been useful).

The findings further indicate that tourists feel dissatisfied when accepting the technological limitations (not having Internet or not being able to connect) and the unfulfilled expectations (having expected to be able to use ICTs). Additionally, a high level of uncertainty was found when ICTs are unavailable. Participants expressed to feel lost and scared about the thought of not having technology, in case a backup is needed. Two participants provided insights into how upset they feel about not being able to share their experiences on Facebook with others and having access to necessary place information, respectively. Such instances underline how barriers keep tourists from creating and enhancing tourist experiences to their full potential.

> *"I was so upset when I was in China and I couldn't post any news because it was banned, IS banned, because it still is banned. I really want to 'I'm in China'."(John)*

> *"It's knowledge. The knowledge behind the history, diversity and the building of the city and the meaning of the city and the buildings. Yeah, so now we just don't know it, which is a pity I think." (Jane)*

Missed opportunities and limitations

The second type of consequence identified was 'missed opportunities and limitations'. Participant narratives revealed how the lack of hardware availability and Internet connection can have major impacts on the tourist experience. For instance, tourists

reported that they were not able to location-check-in online, share posts in real-time with their families and friends and felt cut-off from conversations happening on social networking sites. One of the biggest concerns emerged is that tourists are afraid to miss great opportunities, due to the shortcomings of ICTs. Several narratives referred to the fact that ICTs issues have caused many missed opportunities in the past.

Some mentioned examples include missing the chance of random social encounters (e.g. that might happen through Facebook/Foursquare check-ins) or missing out on knowledge about the surroundings (e.g. points of interests or small local hidden places). Further participants revealed that not being able to access information could result in missing offers and deals (e.g. restaurants offers in the surrounding) as well as real-time information (e.g. train/bus/flight/weather information, delays and changes) that could be beneficial, or in some cases, essential to the tourist experience. Thus, the lack of ICTs not only implies limited opportunities for experience enhancement, but can effectively change the nature of experiences. Among many examples, one participant narrates a missed opportunity to meet people, due to the lack of Wi-Fi.

> *"I checked in at home and my friend was telling me that she was in the same restaurant but I was already at home. I had to check in at home because they told me that they don't give Wi-Fi to customers." (Martha)*

Behavioural consequences

With technological barriers present, tourists not only show emotional responses, but also indicate that several behavioural consequences occur. One common behavioural consequence identified was that tourists seem to decrease or stop their ICTs usage altogether. Participants reported that if ICTs are unavailable, restricted or do not work properly, they stop using ICTs and switch to the use of other resources instead. In these cases, several alternatives come into play. These can include the use of static desktop sources (instead of mobile technologies) or the reliance on free Wi-Fi hotspot locations (instead of mobile Internet access on the move).

Moreover, participants report that they turn to traditional offline information resources, such as asking locals, using guidebooks and paper maps. Another behavioural outcome identified was consumer dissatisfaction and associated complaint behaviour. For instance, in the case of Internet or free Wi-Fi lack, participants indicated not only to complain offline and online (during and post-travel), but also to avoid hotel bookings

(pre-travel stage) or even to go as far as changing existing reservations at hotels or restaurants (during-travel stage). These findings indicate that ICTs barriers do not merely negatively impact on the tourist experience, but also induce major consequences for tourism service providers, if they fail to meet the desired technological standards. Recurring participant comments reflect such behavioural outcomes, as follows.

> *"I'm a little bit concerned with roaming and how much it costs, so I will try to reduce how much I use data, so data-hungry applications, I wouldn't watch a video, unless I know that I'm in a Wi-Fi kind of situation." (Dan)*

> *"I would almost be inclined to swap hotels. I mean I feel that strongly about it. I think that it is now, a prerequisite really and I always check when I'm looking for a hotel, I always check that they have Wi-Fi, FREE Wi-Fi." (Paul)*

Monetary burden

The final tangible consequence represents an increased monetary burden caused by ICTs insufficiencies. These appeared to be primarily triggered by the lack of technology and connection provided. For instance, the lack of free Internet availability frequently results in occurred roaming charges abroad, additional payments and the costly usage of alternative sources (e.g. buying a guidebook instead of using a free travel application). Moreover, the reported lack of Wi-Fi in public spaces, such as transport facilities or cities, causes an unavailability of real-time information access. Several participants described this issue as an indirect cause for high costs, as train or flight connections were missed and had to be re-booked as a consequence. These incidents could have been avoided if Internet and real-time information access were available. Several participants emphasise the additional monetary burden because of ICTs restrictions.

> *"They don't have free Wi-Fi at the airport and you have to pay for that so I'm not using that, so I can't use it YET." (Martha)*

> *"The only thing that is stopping me from using the iPhone a lot more abroad is the roaming charge. So it is the cost of it." (Paul)*

In taking the analysis one step further, it was of particular interest to understand how *experience barriers* might be related with specific *barrier consequences*. For this purpose, an NVivo matrix query analysis was performed to shed light on such potential relationships, as shown in Table 5-6. While several patterns of potential relationships between factors emerged, five dominant relations were found (3-G, 3-E, 3-H, 2-G, 2-E). These were identified based on the number of coded narratives relating to both barriers

and barrier consequences, as accentuated in dark grey. The most salient relation appears to exist between '*telecommunication and infrastructure issues'*, primarily related to Internet access and Wi-Fi, and '*usage decrease of ICTs applications'* (22). In the same category, a further effect appears to be the change to '*alternative and traditional sources*' (15) as well as the increase of '*monetary burden'*, as tourists are involuntarily forced to pay for Internet or Wi-Fi access (14). A further relation identified was that '*software issues'* seem to be related with usage behaviour, in that a '*usage decrease'* (9) or a '*change to alternative sources'* (8) occurs as a result.

Table 5-6. Relationship Barriers and Barrier Consequences

	A: Anger	B: Disappointment	C: Dissatisfaction - Limitation	D: Uncertainty - Agitation	E: Change Alternative Sources	F: Provider Consequences	G: Usage Decrease	H: Monetary burdens
1 :Hardware Issues	0	1	1	3	2	0	1	0
2 : Software Issues	2	2	1	2	8	0	9	2
3 : Telecom. Infra. Issues	3	4	4	1	15	2	22	14
4 : Usage Difficulties	3	0	1	0	0	0	3	0

Source: Author

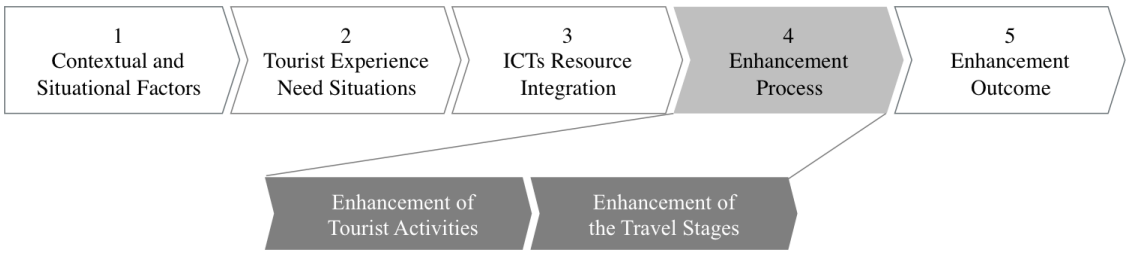
To conclude this section, the findings have demonstrated the current technological enablers and barriers that facilitate and hinder the enhancement of tourist experiences respectively. Unlike recent studies, which suggest that technologies enable, improve and enhance tourist experiences (Lamsfus et al., 2010; McCabe et al., 2012; Wang et al., 2012), it was found that ICTs resource integration and experience enhancement are complex tasks. Due to the existing technological variations within the infrastructure, hardware, software and usage levels, several enhancement outcomes can unfold. As a consequence this implies that through technological enablers and barriers, experiences might be enhanced one time, while hindered in a specific context another time.

This is in line with the phenomenological nature of experiences, suggesting that while technology "*might be considered as a resource at one level, the same technology could be considered as a resistance at a different level, or different context*" (Akaka and Vargo, 2014, p.374). For services marketing and management and tourism organisations, this knowledge is critical to facilitate the 'experience resource

environment' that offers the necessary technological prerequisites that tourists need during the travel process. While tourists might use their own devices, it is the service providers, who need to ensure that the technological capacities, through accessible services, destination applications and public Wi-Fi infrastructure, are provided for a mutual resource integration of ICTs between tourists and service providers. Having revealed insights into the detailed role and integration of ICTs as a resource, the next section presents the tourist experience enhancement process in light of the tourist activities in the pre/during/post stages of the travel process.

5.4 *Tourist Experience Enhancement Process*

In exploring how tourist experiences are enhanced by ICTs, the analysis revealed that a wide range of tourist activities emerged from the participant narratives. These tourist activities are enhanced through ICTs in the pre/during/post stages of the travel process (Craig-Smith and French, 1994). Two main sections are discussed, with the first one to focus on the enhancement of tourist activities, while the second one presents the enhancement of the travel stages overall.



5.4.1 Enhancement of Tourist Activities

The first theme revealing the process of the tourist experience enhancement refers to 'tourist activities'. The tourist experience is an activity-focused process (Wang et al., 2012). A wide array of studies have discussed tourist activities in the three-stage travel process, including information search, planning, decision-making, booking, exploring, engaging, sharing, reviewing and recommending (Cox et al., 2009; Xiang and Gretzel, 2010; Fotis et al., 2011; Leung et al., 2013; Munar and Jacobsen, 2014; See-To and Ho, 2014). The qualitative analysis has revealed a total of ten tourist activities, which occur when activities are enhanced through ICTs. Table 5-7 outlines the identified tourist activities, provides a short description of how these are enhanced through ICTs and indicates the number of sources (number of participants) and references (coded citations) pertaining to each activity. The following analysis is based on a total of 1215

individual text passages (references). To allow for a clear presentation, the discussion of the activities has been structured based on their occurrence within the travel process.

Table 5-7. Tourist Activities

Tourist Activities	*Description Enhancement through ICTs*	*Nr. Sources*	*Nr. References*
Inspiration	Active, passive inspiration	11	96
Information Search	Active search and passive push information, pre/during travel	15	123
Planning	Pre-travel, during-travel and forward planning	15	151
Decision-Making	Dynamic decision-making, filtering choices, holistic and informed decisions, evaluation and verification	13	119
Booking	Last minute, dynamic booking, booking in advance	8	21
Transit and Transportation	Navigation, transport information, updates, best choices	7	25
Geographical Navigation	Geographical positioning and navigation	14	182
Sharing	Audience, content worth sharing, motivation sharing and time frame	15	211
Socialising and Engaging	Connecting, updating, sharing, conversations, engagement and exchange	15	103
Reviews and Recommendation	Recommending, compatibility, evaluation, active review motivation, process	15	184
Total		**15**	**1215**

Source: Author

5.4.1.1 Inspiration

Inspiration emerged as a crucial initial part of the travel process, which is facilitated by emerging ICTs. While recent studies have started to recognise inspiration through ICTs (Fotis et al., 2011; Maurer and Hinterdorfer, 2014), inspiration was identified as a distinct tourist activity of the travel process. Specifically, it was found that tourist experience inspiration is enabled in two main ways. Participants described that they use ICTs to 'actively' search for inspiration and use ICTs platforms to find inspiration 'passively' in that they become inspired without looking for it. For instance, active inspiration mainly occurs when tourists access ICTs platforms, such as TripAdvisor, with the scope to become 'inspired' about which places and destinations to travel to. Besides gathering information in the pre-travel stage, it was found that participants also use several online channels to become inspired about what activities to do and events to attend at the destination. This is an interesting insight, which suggests that inspiration is not only linked to the pre-travel stage, but also happens dynamically in the on-site stage. The following quotes exemplify how TripAdvisor and Twitter are for inspiration:

"TripAdvisor to look through the images what are the best places to go." (Rachel)

"When I'm using Twitter I just want to know what is going on, I don't even know, or even have a specific search when I use Twitter but I just want to know like what is happening around, so I put the city name and the attraction I want, like bar or restaurant or even gelato Florence or something and it is with a purpose, but I just want to see what is coming up using that keyword and you find that it is really helpful." (Teresa)

While participants frequently noted the search for active inspiration, narratives also revealed, often implicitly, that a major passive inspiration occurs through ICTs. In fact, numerous experience narratives indicated that tourists get passive inspiration from companies' information updates or personalised suggestions through social media platforms. While participants described that they were not actively looking to visit a restaurant or destination, compelling pictures, offers and deals can become a main source for inspiration that tourists might act upon. Moreover, it was found that tourists' personal social networks represent a trusted source for inspiration.

Such identified triggers are geographical check-ins on Foursquare or Facebook by friends or shared pictures of places that friends have visited, but participants themselves have not been before. Additionally, online content of places they would like to visit again or posts of unknown places, they had no knowledge about, have been reported as inspiring travel. In fact, participants stated that social media posts from friends about nice places often not only inspire them, but actually make them want to visit a place. It was found that tourists become inspired when friends recommend 'you have to try this', or when they are repeatedly exposed to pictures of a destination over time, which gradually awakes their desire to go there. The following narratives underline such instances of inspiration:

"If they for example post something about a destination, I tend to go to then, of course I will have a closer look about that." (Steve)

"Facebook and Twitter basically, because I in Facebook people post plenty of stuff, images and videos, so that is some sort of making a mix of what is really appealing to go to which destination." (Jane)

"One of my friends from Vietnam and she travelled to Italy and she spent her whole holiday in Siena. And if you think of Italy, people would go to Venice, I will go to Rome or Florence, but she only spent her time in Siena. And the way she took the photo was quite amazing, and it excited me, so one of the places I decided to visit last October was Siena, so yeah, so sometimes social media also inspires me a lot." (Hanna)

5.4.1.2 Information Search

Information search was identified as a further main activity within the tourist experience enhancement process. Due to the intangibility of the tourism product (Buhalis and Jun, 2011), information search has always provided an integral part of the tourist experience (Xiang and Gretzel, 2010). The findings reveal that information search through ICTs occurs in two main ways, actively and passively. It was found that information search constitutes not only one of the most critical activities of the pre-travel stage but, through ICTs, has also become a core activity to address dynamically arising needs on-site. As outlined in section 5.2, several need situations might occur during travel, which trigger tourists to actively seek for information about the weather, flights, prices and directions. During travel, tourists also require a high level of information to undertake activities in the area, understand the best things in their surroundings and gather the latest news, offers and deals available at the destination.

> *"I would use TripAdvisor and see what are good restaurants or activities to do there. Ehm. Just to get like a bit of local knowledge, not just like what is on the tourist website, but also what other people think." (Laura)*

> *"Yeah, I just gonna use to book things and look if there is any special event or something, occasionally I may end up looking at the website or the Facebook page and occasionally I may do a search on Twitter to see what is current." (Laura)*

Passive information search was identified as a second emerging theme when ICTs comes into play. For instance, tourists receive context-relevant information and push information about noteworthy events, news and offers within the geographical surrounding through their mobile phones. These updates are pushed to them without the tourists having to actively search for information. In this vein, ICTs are described as a major facilitator of the tourist experience, which allows accessing and retrieving relevant information dynamically when needed. The following statements demonstrate how passive information search within tourist experiences happens in practice.

> *"I mean some companies, they track your location so they tend to offer you some options of what to do in the area." (Steve)*

> *"On the go you get information that you could not foresee before, yeah. Like for example also with these location based applications, you can get an offer…Businesses send you offers while you are on the go so I think with this you can make unexpected plans because you find out about all information that you could not foresee before and you can take advantage of this. And this would not happen if you don't use technology." (Martha)*

5.4.1.3 Planning

Planning emerged as a third distinct theme within the enhancement process of the tourist experience. Planning has been described as an integral activity that is predominantly associated with the pre-travel stage (Cox et al., 2009; Fotis et al., 2011; Xiang et al., 2014). In this study, however, it was found that through the use of ICTs, planning appears to occur in multiple travel stages. The findings add knowledge in that three main stages of planning emerged, which were conceptualised into 'pre-travel planning', 'during-travel planning' and 'post-travel planning'.

Pre-travel planning

The findings indicate that ICTs play a central role in enhancing pre-travel planning activities. For instance, tourists integrate ICTs to create an overall rough plan of basic tourist activities, search for directions and identify major means of transportation in the destination. An interesting insight is that ICTs are used to facilitate planning on various levels of details. While some tourists seem to use websites and platforms for the purpose to plan the general layout of the travel, others make detailed plans, including daily activities, sites to visit and restaurants to go to. Particularly, if tourists are unfamiliar with a destination, they seem to allocate more time and ICTs resources to plan their tourist experience ahead.

Additionally, it was found that ICTs are integrated to compare prices and to plan out the 'main things' to visit or do. Social networks thereby appear to play a key role, in that tourists collect recommendations and advice, which often have a major influence on the activities to be undertaken at the destination. Another interesting aspect that seems to be unique to the *Technology Enhanced Tourist Experience*, is that some participants do not only use ICTs to plan the tourist experience. Rather, they prepare ICTs themselves as tools to be used for the during-travel stage. For instance, this is done by downloading LBS applications and by preparing these for possible offline use, in case Internet availability is anticipated to be limited. The following comments express these findings:

> *"Normally I don't use technology but I cannot think about any incidents when something went wrong, I just sort of, given that I do pay quite a lot of attention to preparation." (Steve)*

> *"Before I travel, the first thing is to do the research on one place, and you plan it and maybe sometimes download the information on a PDF to save it on the iPhone, so I can read it on the flight or on the way to travel and then, I also like to prepare the camera." (Hanna)*

During-travel planning

Beyond pre-travel planning, it was found that ICTs are integrated as a central means to enable dynamic tourist experience planning on-site. For instance, participants reported that ICTs are used to enhance information they prepared in the pre-travel stage and add more dynamic knowledge to existing information once on-site. Due to the increasing availability and convenience obtained through ICTs, some participants stated that ICTs can be used to plan almost the entire tourist experience on-site, while leaving only essential planning to the pre-travel stage. Another aspect emerged indicates that ICTs are also used for dynamic and fluid planning on-site to respond to contextual and situational factors and to change plans accordingly. For instance, tourists described that they frequently have plans in place, but have to change these sometimes spontaneously, for which purpose ICTs come into place.

> *"I think you can do much more short-term planning and unexpected planning. Because on the go you get information that you could not foresee before, yeah. Like for example also with these location based applications, you can get an offer." (Martha)*

> *"When I was home I was planning where should I go, where should I start, but I was using the Google map, because everyday I was thinking to go to a different restaurant, so how I can go there, so I used the different websites, the different maps, the map of the tram, the map of the train, the buses." (Andrew)*

It was also found that ICTs enhance the planning activity, as they enable the social network to be connected and provide insights. For instance, tourists report that they like to use social media to gather suggestions from friends and family during travel. By doing so, they may get interesting insights and hear about great places to visit. Through ICTs, they can take this advice on-board and change their travel plans instantaneously. The following quote is exemplary of how ICTs enhance planning on-site.

> *"Because they mention for example Hongkong harbour, next to that Hongkong harbour, there is a free market. Alright, so I may travel there then. So it will change my plan as well, my travel plan. Yes. It has an impact what they said. Yes." (Veronica)*

Post-travel planning

The third type of planning emerged relates to planning that occurs in the post-travel stage. This could be best described as a 'forward-future planning'. While pre-travel and during-travel planning are well established, it seems that through ICTs, post-travel planning has appeared as a distinct dimension. Participants described that they use ICTs (blogs, websites, online photo collections and social media posts) to save, store and visualise past experiences. At the same time, they use ICTs to retrieve the places visited, the place check-ins made, the pictures shared and trails walked. Due to the benefits of displaying past experiences online, participants describe ICTs as useful tools to reconstruct past experiences and forward-plan future travel. In addition, ICTs allow tourists to see what they missed in one trip and to use this information to plan experiences for next time. The following narratives exemplify this type of planning.

> *"It is planning kind of for the next trip, because at some point you kind of need to get informed, again and again, about what you can do and different things, and through social media and other technologies you can find out so much about things that you might have not informed yourself about." (Rachel)*

> *"I had a good time and I can go back and replay it or I can BUILD ON it. Or I want to avoid going through that place because I spent two hours last time and it was very dangerous… or I have been THERE and let me go this side." (Dan)*

Summarising, it appears that planning activities are changing through ICTs. Planning seems not only to occur in the pre-travel stage, but rather shifts its focus towards the during-travel and post-travel stages, as ICTs come into play. Integrating ICTs opens new ways for tourists to plan increasingly on the move and to integrate the social network as co-creators in the process. Planning has become a dynamic joint activity, rather than an isolated tourist practice in the pre-travel stage. From a services marketing perspective, organisations need to understand that tourists may only plan a minor part of their experiences ahead, while most of the planning occurs in the destination. This creates opportunities to engage with tourists through platforms and provide them with up-to-date content that might be relevant and facilitate better planning on-site.

5.4.1.4 Decision-Making

Decision-making was identified as the fourth tourist activity enhanced by ICTs. Traditionally, decision-making has been mainly portrayed as an activity occurring in the pre-travel stage (Gretzel et al., 2006b). Due to the experiential nature of the tourist experience, the decision-making process is a complex process, in which information and

risks are evaluated. Recently, it was recognised that social media might play an increasingly instrumental role in this process (Fotis et al., 2011; Xiang et al., 2014). The findings confirm these views, as ICTs were found to support the decision-making process in several ways. Unlike previous literature suggests, it was found that decision-making largely occurs as a dynamic process that can be easily done on the move. For instance, participants explained that they use mobile devices to access information online and make instantaneous and context-relevant buying decisions on the spot. Rather than making all decisions at home, these can be made flexibly at the destination.

It was also found that ICTs seem to help tourists evaluate and verify information and offers. For instance, ICTs were reported as particularly useful when offers, options and information are vast. In these cases, tourists would use ICTs to filter information, balance positive and negative recommendations and evaluate multiple choices to find the 'truth' to make a decision. Participants reported that the main value of integrating technologies emerges as information is gathered and an informed decision can be made. To do so, a variety of information and advice from personal networks and consumer opinions from multiple sources can be accessed. This in turn offers tourists more confidence in the process and the final decision-making. Thus, the central role of ICTs is to assist in a more confident decision-making process, as outlined below.

"For me technology is more about making informed decisions prior to something just to ensure that my travel decision doesn't go wrong." (Steve)

"TripAdvisor so I can see feedback from people that might be that they have been there before so I can see if they are happy or not happy." (Teresa)

"So you have different technology to contact people, to take their advice, to take their opinion." (Andrew)

5.4.1.5 Booking

Following the inspiration, information search, planning and decision-making process, tourists usually continue with the booking and purchase of travel (Cox et al., 2009). Booking through ICTs emerged as a distinct tourist activity, which primarily seems to happen in the pre-travel, but also in the during-travel stage. In the pre-travel stage, tourists use ICTs to purchase so-called 'necessities', such as flights and accommodation, while further booking is left for a later stage. To do the actual booking, participants report to use a number of platforms, channels and websites, such as Expedia.com, Booking.com or Hotels.com. The main value of using ICTs is that

booking has become very easy and convenient. Payments can be made in advance, and in doing so, the best hotels and best prices can be found and ensured.

The findings also reveal that through ICTs, the booking process has become much more dynamic and in many cases, a last-minute activity. Due to the access to price information online, participants reported that they are able to do last-minute bookings shortly before travel (e.g. flights and accommodation), or on-site at the destination (e.g. restaurant deals and event offers). With respect to the latter, participants noted that mobile devices have enabled them to book on the spot. Mobile booking has been described as particularly valuable as it allows completing bookings faster and avoiding queuing for tickets. In this way, the overall efficiency of the tourist activity is improved. In providing an in-depth account, one participant highlighted how mobile dynamic booking has enhanced his tourist experience.

> *"This is something that REALLY in the last couple of years is changing my trip, my travel attitude, because on the one side you can schedule in advance what you want to do next, and on the other side it is much more easy to get a ticket in advance and not queue for entering in a place. I feel I'm more, I'm treated like a VIP in a sense, because I see the other people queuing in a sense and I go to the machine and get my ticket with the reference number and I'm not using my money, I'm using my credit card." (Aaron)*

5.4.1.6 Transit and Transportation

Transiting and finding adequate modes of transport and schedules is an essential activity in the tourist experience. The possibilities offered by ICTs, in particular mobile technologies, to facilitate transit and transport are vast (Davies et al., 2012). The findings reveal that ICTs are integrated to assist several transportation purposes. For instance, participants described to use ICTs for personal car navigation, identifying transport means and locating specific transportation needed in the immediate surroundings. Participants also indicated to use ICTs to find possible transport options, compare these and decide which is the best one to take. In some cases, the best flight connection is sought, while in other cases, transport means, such as car versus public transport are compared.

The most transforming impact of ICTs for transit and transportation activities is the potential for live and real-time updates. Several participants described how Internet-connected mobile devices have become extremely valuable to get live transport updates, check live flight information, departure and arrival times as well as transport delays.

When transiting, travelling and moving, access to time-sensitive information is crucial in some cases. Participants exemplified that in case a flight gate has changed or a flight is delayed, live information might be urgently needed. Such information not only enhances the efficiency, but also reduces the time that would be necessary to physically go, access and collect the required information. Transport schedules or information desks are often distant, while mobile phones allow checking information on the move, rather than having to search for the information first. Two participants describe the use of ICTs for a better availability of transport related information below.

> *"Other things I use basically is when you look, you take your train, and you can see live departures and live destinations and when you are at an airport you can see live departures, live arrivals, it is very helpful for me to plan the whole journey basically." (Andrew)*

> *"Check the public transportation around, because for a few places they have a good and helpful website for you to check what buses run from one place to another and on what fares the offer, and also the schedule." (Teresa)*

5.4.1.7 Geographical Navigation

Closely linked to transport and transit, geographical navigation emerged as another tourist activity that is enhanced by ICTs. Due to the general high unfamiliarity with destinations and places (Brown and Chalmer, 2003), tourists are in constant need of finding places and directions. The findings indicate that ICTs play a major role in facilitating tourists to do so. A large number of participants expressed that traditional paper maps are difficult to use, especially if they do not know where they currently are. To overcome this issue, participants reported that they use mobile applications, such as maps or location based services. These allow tourists not only to identify the current location, but also display the easiest, shortest or quickest route to get somewhere.

A key value of using ICTs is that tourists can independently perform geographical positioning and routing without any further resources needed. Beyond navigation, it was found that ICTs assist in getting a better understanding of places in the close proximity and the surrounding area. While tourists use ICTs to navigate through a destination, ICTs also allow discovering places and sites within the surroundings. For instance, this occurs when LBS or AR applications are used to uncover buildings, sights and attractions, before navigating there. Two participants exemplified past experiences of using ICTs for geographical discovery and navigation.

"This was choosing with the mobile technology based on proximity so where is the closest museum." (Aaron)

"Augmented reality apps you are able to go like to places you never really have not found before. Like for example me and my parents were in Bath over Easter and we wanted to find, what did we want to find, a restaurant, but we all like didn't want this or didn't want this (laugh) we were a bit specific in what we wanted and we were just walking around and walking around (expressing annoyance, impatience)." (Laura)

5.4.1.8 Sharing

Sharing of impressions and moments through ICTs, in particular social media, has become an integral part of the tourist experience (Munar and Jacobsen, 2014). In fact, only through sharing, experiences might obtain meaning and texture (Selstad, 2007). Participants highlighted that they seek to share experiences mainly with friends, families and their social networks online. In this vein, it was identified that participants consider different content 'worth sharing'. Generally, participants noted that they share a myriad of experiences, such as current locations, exotic and distant experiences, food experiences, interesting and positive experiences as well as personal significant moments. Two main sharing behaviours emerged in the analysis. Some participants appeared to share in order to bring attention to extraordinary, uncommon and less known experiences. Another proportion of participants seems to have an inclination to share popular things and must-see sights to gather social approval. Steve and Teresa described their use of social media to share experiences in different ways:

"Whereas my partner is the opposite, she posts everything, so what is known well to other people, simply because to make sure that other people recognise where you have been (laugh), so that is different. Yeah, and I think that's it, reviews and sharing experiences." (Steve)

"Their attention, I don't know, I just like taking pictures and sharing them, I'm not sure about the benefit that I get, and inspiring people to go there, I mean if the place is really hidden or not many people know that place and you have been there as the first person in your network then it feels I don't know how to describe it, proud. Yeah." (Teresa)

The analysis of experience narratives also indicated that a number of motivations exist behind sharing tourist experiences through online media (Munar and Jacobsen, 2014). It was found that the majority of participants want to share their experiences to stay connected with people and to update them about what they are doing. Participants also noted that they share their experiences because they want to inspire other people and

offer their help. For instance, tourists seek to inspire people, by sharing content and telling others 'you should try this' or by pointing out experiences that could be of particular interest to their social media 'audience'. Some participants also described that they simply want to share 'their own happiness' with others and extend the tourist moment by speaking about it. In contrast to some of the altruistic reasons emerged, aiming to inspire and help others, also some ego-centric reasons for sharing were found. For instance, it appeared that some participants use ICTs to share experiences as a means of self-expression, gathering self-esteem and being admired by others.

With respect to the travel stages, one of the most central findings was that by using ICTs, sharing has greatly shifted from the dominant post-travel stage to the during-travel, and even pre-travel stage. While participants have shared experiences mainly post-travel in the past, the use of ICTs enables them to share experiences when they occur at the destination. Due to the increased integration of mobile devices and the availability of Internet connection, participants noted their desire to share trips live to co-create the experience in the moment, in real-time, with others. In a few cases, participants also described that they share experiences before travelling. For instance, they share destination pictures and DMOs' posts to create anticipation and communicate that they are about to visit a specific place. The following participant comments underline the value of sharing, and in particular the value of sharing in real-time.

> *"What I gain from it? Maybe (hesitation) recognition. Yeah. Taking nice pictures and being in a really nice place (laugh) and being admired because it's raining at home." (Jane)*

> *"I think the value in sharing during would be that people are kind of more informed about what I'm doing and more timely to when it is happening." (Rachel)*

> *"Yeah, the sharing. I mean when you travel with family or friends then you share your experience between the other travellers but when you are travelling alone with whom are you sharing your experience? Then it is, I wouldn't say it is more valuable for me, it is just a sharing an experience." (Jane)*

5.4.1.9 Socialising and Engaging

Closely linked to sharing experiences, 'socialising and engaging' was identified as a key activity that occurs in the during-travel stage through ICTs. Without the integration of ICTs, social interactions primarily occur with the own travel party and other actors in the physical surroundings. The findings reveal that tourists seek to engage in the physical world offline, but also use ICTs to engage with people online. For instance,

participants noted that they use ICTs to facilitate a range of activities. These include checking emails, connecting with friends and staying in touch with people at home. They also seek to communicate, interact and go as far as co-create tourist experiences with the connected social network.

One interesting insight is that tourists seem to vary in seeking 'lighter' or 'deeper' forms of engagement. Lighter forms include the casual checking of friends' profiles and updating, just to stay in touch and know 'what is going on'. In contrast, deeper and more extensive forms of engagement happen as tourists integrate the online network into collaborative decision-making, planning and constructing tourist experiences online. Participants expressed several scenarios of how social media are used to keep updated, engage and socialise with the own network in the tourist experience.

> *"It is probably staying in touch with people that I don't see so much and don't talk to very often. So it is kind of getting, yes, staying up-to-date, of where they are and what they are doing, yeah." (Rachel)*

> *"It is all on an ad-hoc basis, apart from Facebook, that is more about getting updates of what is going on in my inner circle of friends." (Steve)*

5.4.1.10 Reviews and Recommendations

Reviews and recommendations emerged as the tenth activity within the tourist experience. Consumer generated content through online reviews has become a main factor in travel planning (Miguens et al., 2008; Cox et al., 2009). The findings indicate that ICTs facilitate two main elements in this activity. These include 1) active *reviews* that tourists write about their experiences and 2) *recommendations* by others that tourists take action upon by integrating them in their information search, planning and decision-making process of their experiences.

Reviewing Tourist Experiences

Tourists have a desire to share their lived tourist experiences with others (Munar and Jacobsen, 2014). One way of doing so is to share experiences on online review platforms. While reviewing was mainly described as a post-travel stage activity, the findings indicate that reviews are created in both the during-travel stage (shortly after the service encounter) and the post-travel stage (at home). In terms of content of reviews, participants seemed to consider both positive and negative experiences worth sharing. Positive experiences appear to be shared and reviewed when these were

outstanding and beyond expectations. By doing so, participants want to raise awareness of exceptionally good experiences for others to have the opportunity to experience these themselves. Negative reviews are written mainly when experiences were outstandingly bad. Most participants commented that they tend to share negative experiences in their reviews more frequently. Before doing so, tourists however seem to carefully evaluate whether expectations have been met, the promised standards have been delivered, and whether the problem seems to be consistent rather than a one-time service failure. Steve and Rachel explained their thoughts on reviewing tourist experiences, as follows.

> *"People tend to more about the negative experience and I tend to be quite reasonable, so if my experience was good, why not to tell the world that it was good and if my experience was bad then of course I will tell that it was bad. But I think this is a psychological thing that you tend to share more the negative experience more than the positive experience. But I do equally, both, so far I had no positive experience." (Steve)*

> *"I think what triggers me is when the experience I had is kind of better than I expected it to be. So for example with a flight, so if the service was really nice, and if there was one person that really stood out or I felt that they were not just doing their jobs but more than they were asked to do in a hotel as well." (Rachel)*

The findings also provide insights into why tourist experiences are reviewed online. For instance, tourists seem to review experiences to give company feedback or bond with them post-travel, by writing a nice review about them. Another reason for tourists to review experiences online is to help other consumers. Participants reported that they review experiences to be helpful to others in forming an opinion. Beyond that, a recurrent theme was that tourists 'feel obliged' to write reviews in order to 'give back', if they have personally benefited from using other consumer reviews before. These and other reasons to write online reviews are pointed out below.

> *"I think it is important because they have the right to know of what went wrong and what was very good, so they can reflect on how THEY performed." (Rachel)*

> *"Every month, they (TripAdvisor) send me how many people checked my reviews and how many people said that my reviews were helpful and this is kind of rewarding and interesting." (Aaron)*

Recommendations of Tourist Experiences

Recommendations emerged as online reviews that tourists draw upon and use as a resource to inform their experiences. The findings shed light on the value of online recommendations and how these enhance the tourist experience overall. Participants

described that using online reviews is particularly valuable in that authentic and unbiased experiences can be seen. They believe that online reviews represent a trustworthy resource of information and accurate representation of the reality. The reviews of people's past experiences help tourists understand what to expect and form their own knowledge about potential future experiences. As such, recommendations play a major role in supporting tourists' decision-making and planning process. Online recommendations are used to gather a complementary view to other information resources (e.g. books and company websites) and to provide a holistic rounded view based upon multiple opinions (rather than one-directional, commercial views). Several participants described how they value ICTs platforms to access recommendations.

> *"Because the book is just one point of view and on TripAdvisor you can get user comments and you get a much more rounded knowledge about the place." (Paul)*

> *"Because I trust the reviews more than I trust the website because I know that if it would be my website or my hotel I would put really good things on there." (Laura)*

> *"TripAdvisor, this is the most reliable, I think. You can ALWAYS see the comments if they like it or not. It is just based on the TRUE experience." (John)*

Summarising the enhancement of the tourist activities, it appeared that ICTs play a central role in enabling and enhancing ten core activities. These emerged activities included inspiration, information search, planning, decision-making, booking, transit and transportation, geographical navigation, sharing, socialising and engaging and lastly, reviews and recommendations. The findings corroborate with existing studies in that they confirm that ICTs facilitate various activities throughout the pre/during/post stage travel process (Gretzel et al., 2006b). Beyond that, the findings add knowledge in that they have contributed ten specific tourist activities that are enhanced in the tourist experience when ICTs come into play. It also seemed that ICTs induce a major change by transforming and redefining in which stages specific activities take place. The next section turns to analyse in detail in which travel stage tourist activities occur.

5.4.2 Enhancement of the Travel Stages

The analysis of the tourist activities has revealed that ICTs change the travel stages in which activities might be enhanced. Thus, the analysis was expanded to develop an understanding about the enhancement process in the three travel stages. To this end, an NVivo matrix coding query was performed to reveal a possible relationship between

tourist activities and travel stages. Table 5-8 reveals two noteworthy findings, a) in which travel stage most tourist activity enhancement takes place and b) which activity occurs in which specific stage. Based on the quantity of references (citations coded), it was found that the during-travel stage is the most dominant stage, with the majority of tourist activities happening (330). This is followed by the pre-travel stage (225) and the post-travel stage (89), while transit seems to be the least dominant stage in terms of activities performed through ICTs (16).

In examining the tourist activities in each stage, it appeared that planning (61), decision-making (35), reviews and recommendations (35) and inspiration (34) are the four most dominant activities of the pre-travel stage. The during travel stage revealed that geographical navigation (95), sharing (50), planning (40) and information search (37) represent the four most central activities carried out through ICTs. The post-travel stage is mainly dominated by sharing (36) and review activities (29). What appeared to be of particular interest is that ICTs seem to have rendered the during-travel stage the most activity-intense stage. While the during-travel stage has possibly always constituted an activity-rich stage, the findings add a new aspect.

They highlight that activities, traditionally done in the pre-travel and post-travel stages, have now shifted to the during-stage. This becomes evident in that inspiration (1-C), information search (2-C), planning (3-C) and decision-making (4-C) occur not only prior, but to almost an equal, or even stronger, extent in the during-travel stage. For instance, tourists might plan basic travel itineraries at home, while they use their mobile devices and connected social networks to become inspired, search for information and plan dynamically on the move in the destination (see sections 5.4.1.1 - 5.4.1.10). In a similar vein, sharing and reviewing have predominantly occurred in the post-travel stage when tourists came back home. With ICTs in place, these however seem to occur to a large extent in the during-travel stage, while tourists are still on-site. Moreover, experience sharing, an activity traditionally associated with post-travel stage recollection (Killion, 1992), has mostly become a during-travel oriented activity (see 8-C compared to 8-D).

Table 5-8. Relationship Tourist Activities and Travel Stages

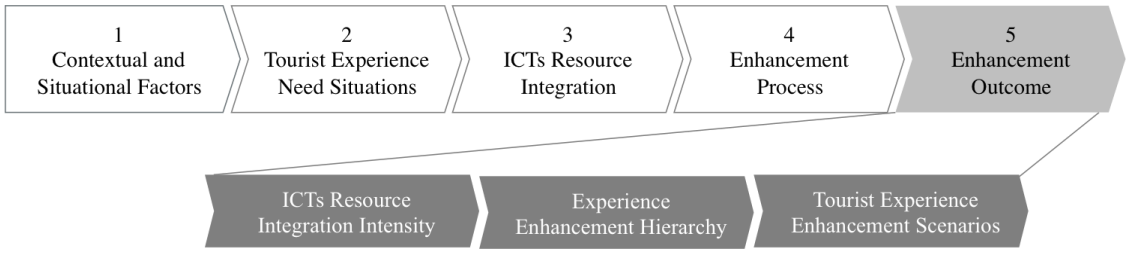
	A: Pre-Stage	B: Transit-Stage	C: During-Stage	D: Post-Stage
1 : Inspiration	34	0	12	0
2: Information Search	25	5	37	2
3 : Planning	61	2	40	13
4 : Decision-Making	35	0	26	0
5 : Booking	10	0	3	0
6 : Transit and Transportation	3	8	7	0
7 : Geographical Navigation	5	1	95	5
8 : Sharing	7	0	50	36
9 : Socialising and Engaging	10	0	33	4
10 : Reviews and Recommendations	35	0	27	29
Total	**225**	**16**	**330**	**89**

Source: Author

In light of these findings, it appears most interesting that the use of ICTs has implied a changing emphasis on travel activities and associated travel stages. The findings indicate that ICTs not only enhance tourist activities, but also appear to shape and change in which travel stages activities take place. This entails critical implications for services marketing and tourism theory and practice. The findings challenge not only existing multiphasic conceptualisations of the tourist experience, but also redefine the physical and virtual boundaries, in which the tourist experience takes place. The theoretical implications of the enhancement of the travel stages through ICTs are discussed in detail in Discussion Chapter 7.4. It reviews how these findings advance the theoretical frameworks of the tourist experience, by breaking down traditional stages and calling for a more dynamic and fluid conceptualisation of tourist experience activities and travel stages.

5.5 *Tourist Experience Enhancement Outcome*

The analysis of the tourist experience enhancement process indicated that an enhancement can take place in several different ways. Depending on the contextual and situational factors, need situations, ICTs integration and the enhancement of the tourist activities, it seems that the enhancement process differs in terms of the intensity of ICTs integration and the final experience that emerges from it. To complete Chapter 5, this final section presents the findings that explain the enhancement process outcome. To this end, 1) the *ICTs resource integration intensity*, 2) an *experience enhancement hierarchy* and 3) *tourist experience enhancement scenarios* are conceptualised below.



5.5.1 ICTs Resource Integration Intensity

In analysing the various extents to which ICTs are integrated as part of the enhancement process, four main intensities were identified. Ranging from weak to strong integration, these were named 1) *non-technology*, 2) *optional*, 3) *supplementary* and 4) *full technology integration*.

5.5.1.1 Intensity Level 0: Non Technology Integration

In the first emerging intensity level, it was found that no technological resources are integrated to enhance the tourist experience. This means that the tourist experience remains almost entirely technology free with alternative offline resources (as discussed in section 5.3.1.2) integrated as resources (Arnould et al., 2006) to facilitate the tourist experience. In analysing the participant narratives, it was found that the non-technology use primarily relates to the during-travel stage. Several participants noted that they seek to refrain from using ICTs at the destination with the scope to immerse in and enjoy the 'real experience', by switching off or by simply using traditional resources instead. Some participants, however, noted that ICTs would still be used for basic tourist activities in the pre-travel stage, such as information search, planning and booking. Two comments underpin tourists' desires to keep ICTs use to a minimum, and thus opting out to enhance their experiences with ICTs.

> *"That's before travel not on travel, the TripAdvisor applications, that was installed on my iPad but that's before, to plan but not during the travelling, I really want to ENJOY my day." (John)*

> *"I mean it is easy to look up everything on the mobile phone but what about signs in the destination. They would show you the way and your common sense of direction. I always go back to this rather than the mobile phone in the first instance." (Jane)*

5.5.1.2 Intensity Level 1: Optional Technology Integration

The second level of intensity can be described as optional technology integration. The common premise identified was that the tourist experience can generally be enjoyable

without technology, but in some cases ICTs might be used. On this level, participants reported that ICTs might be merely used as a backup tool for emergency situations and personal reassurance. As such, devices and applications might be taken by the tourist, but are only acted upon if and when a particular need situation emerges (as discussed in section 5.2). While tourists do not consider ICTs as an essential part of the tourist experience, it appeared that ICTs should be available whenever needed. This stands in contrast to intensity level 0, in which participants seemed to prefer not using ICTs. In this case, however, participants noted that ICTs are used as an option, while not having ICTs would feel like 'something is missing'. Martha's and Rachel's reflections underline that ICTs are not vital, but are desired to ease the experience in cases.

> *"If I don't have it…ok I would miss something but it wouldn't destroy my life yet." (Martha)*

> *"It is kind of a support in terms of maps and kind of getting information on site and everything but I don't think it is kind of, I mean I could do without it, it would just take me more preparation… So it is kind of a facilitating and supporting tool for me." (Rachel)*

5.5.1.3 Intensity Level 2: Supplementary Technology Integration

The third emerged level relates to 'supplementary technology integration', which describes an increasingly strong ICTs use within the tourist experience. The analysis revealed that participants seem to use ICTs, but mostly in combination with traditional resources. Participants emphasised that they use ICTs to gather additional or up-to-date information to complement guide books, or use Google Maps to help with navigation, while also relying on paper maps or street signs at the same time. The common tenet appeared to be that both offline and online resources could create value-in-context (Chandler and Vargo, 2011). Several participants emphasised that by using both resources, their mutual limitations can be addressed. For instance, while a guidebook might provide a good overview of hotels and restaurants, a TripAdivsor application can be used to access consumer-generated reviews to help decide which restaurant to go to. By doing so, participants highlight that the integration of such two-fold resources serves for all purposes of possible tourist activities and situations needed. Following narratives capture tourists' supplementary ICTs integration within the tourist experience:

> *"I think the modern young people they would have one smart phone and one book together so you have enough everything, they support each other." (Hanna)*

"When I go on holiday it is not about using technology it is more about, again, using technology as a supplementary tool to help you to enjoy the holiday." (Steve)

5.5.1.4 Intensity Level 3: Necessity Technology Integration

With the increasing role of ICTs in the tourist experience, the fourth level of resource integration emerged. It can be best described as 'necessity technology integration'. The analysis reveals that on this level, ICTs integration reaches a maximum extent. Tourists seem to mostly use ICTs within their tourist activities, while traditional means have been largely substituted by technology. Most importantly, participants described that ICTs form an integral and essential part of travel. As such, it was expressed that not using ICTs is not considered an option and a 'good tourist experience' without technology is difficult to imagine. Several quotes underline the integral role of ICTs.

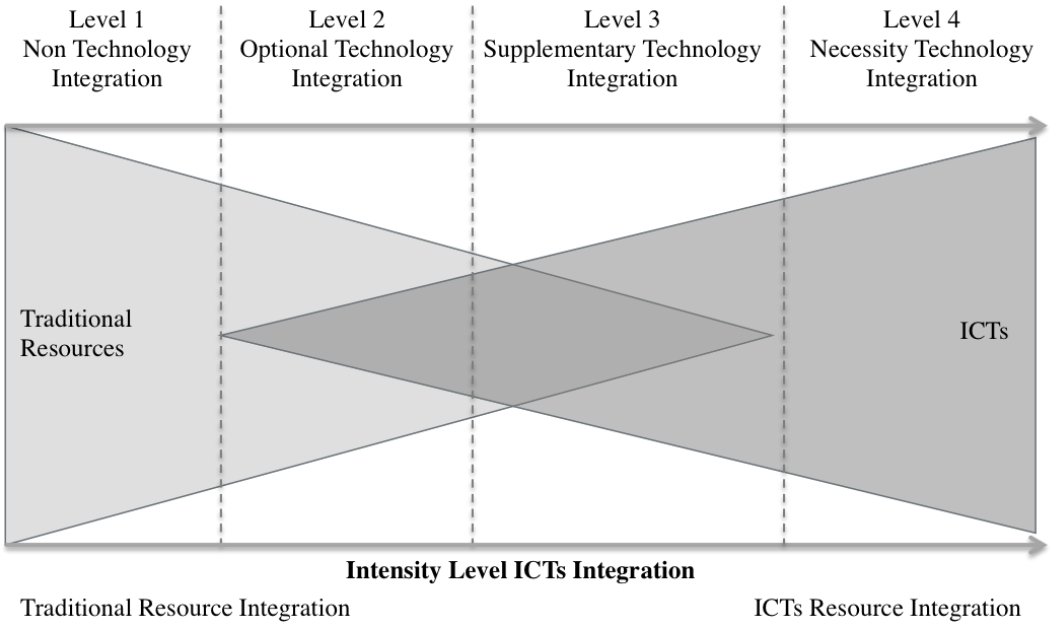
"NOW it is necessary, because I bring it for the reassurance, for phone calling or information search or for things that I need to." (Sam)

"No I can't imagine the best experience without technology." (Andrew)

"If I forget my iPhone at home then I feel like a part of my life is missing… I have gotten to a stage now where I would feel absolutely lost." (Paul)

To summarise the findings, it is evident that four intensity levels of ICTs integration influence the outcome of an experience enhancement. To conceptualise these levels graphically, Figure 5-3 has been developed. It depicts how the integration moves from traditional resources (Level 1) to ICTs integration (Level 4), while a combined use of traditional materials and ICTs occurs in Level 2 and Level 3. Having revealed that different levels of ICTs integration occur, the next section turns to present the outcomes of the enhancement process and the tourist experience enhancement hierarchy.

Figure 5-3. Intensity of ICTs Integration



Source: Author

5.5.2 Tourist Experience Enhancement Hierarchy

Depending on the level of ICTs integration, it was found that experiences are enhanced to different extents. As such, the tourist experience enhancement process does not result in one single 'enhancement' outcome. Rather, it is evident that the final tourist experience emerged can take different shapes. These may range from using ICTs to support small tasks, to improving existing activities and facilitating entirely new activities and experiences that only become possible with ICTs. The analysis has revealed that three enhancement outcomes exist, which include 1) a *technology assisted experience*, 2) a *technology enhanced experience* and 3) a *new tourist experience*. These are outlined and conceptualised in an 'Experience Enhancement Hierarchy' model.

5.5.2.1 Assistance: Technology Assisted Tourist Experience

As a first possible enhancement outcome, the findings point to a '*Technology Assisted Experience*'. Such an experience seemed to emerge when tourists use ICTs with the scope to assist a variety of activities, such as information search, planning, booking or navigating. Thereby, ICTs are integrated for specific purposes, such as to ease booking, compare prices, book flights or navigate from one point to another. By using ICTs in a merely supporting way, the tourist experience remains mainly the same. The integration of technology does not change the nature of the experience, but rather assists specific

tourist activities in a supportive and largely non-obtrusive way. Participants describe their views on the role of ICTs in creating a technology assisted experience, as follows.

"So I think that technology should be, should ASSIST the experience before, during and after, but should not be a totally different experience, so it means that it is like, before the digital camera." (Aaron)

"It's more like to assist because we wanted to have dinner in a nice restaurant and it's not that because of the app that the dinner was better, so yeah, I think it would be just assisting." (Laura)

5.5.2.2 Enhancement: Technology Enhanced Tourist Experience

A '*Technology Enhanced Experience*' emerged as the second outcome, resulting from experiences that are facilitated by ICTs. Enhancement was identified when ICTs are not only used to assist and support, but essentially *improve* the tourist experience. The central tenet is that technology is used in a way that 'makes the existing experience better', compared to if no technologies were used. Participants outline several examples of how ICTs enhance their experiences. For instance, technology is used to access information, which might not only address a functional goal, but also creates additional awareness of things in the surrounding, which enhances the experience of a place overall. Another example mentioned is that ICTs might allow customising information based on the individual needs. While this process does not entirely change the nature of the experience, additional value can emerge in that it becomes more personalised and perhaps, more meaningful to the tourist. By asking participants to define such an experience, they noted that enhancement occurs when ICTs support the natural behaviour and experience, and beyond that, 'add a layer' or 'add something extra' to the experience. This was clearly expressed by Martha and Andrew in the following words.

"It enhances my experience through opening new opportunities." (Martha)

"It enhances your experience, because you are already there and already enjoying. You are on your holiday but if somebody is giving you more tips to enhance your experience then, definitely that will have a positive effect on me." (Andrew)

5.5.2.3 Creation: New Tourist Experience

The third experience enhancement outcome identified relates to the creation of 'a new tourist experience'. Unlike the two outcomes presented above, which suggest assisting and enhancing existing experiences, the third outcome is distinct in that it reveals the creation of a new tourist experience through ICTs. In playing a vital role the findings

reveal that ICTs have the power to create new tourist experiences on several levels. For instance, participants noted that a new tourist experience is created when they use AR applications, QR codes, Google Glasses or NFC technologies for the first time. In a similar vein, it appeared that ICTs lead to new experiences, when they become the 'centre of the experience'. Such examples include restaurant e-table technologies (e.g. Inamo Restaurant), immersive virtual reality technologies and AR games. In many of these cases, it was reported that 'using technology becomes the experience itself'.

New experiences are, however, not only created by the use of new ICTs. The findings also provide evidence that ICTs can have such a major impact that they essentially lead to a new physical experience. For instance, it was noted that a social media post (Twitter) or an online check-in (Foursquare) might be 'picked up' online, leading to a personal recognition or reward offline. By receiving a free coffee, present or voucher, the experience is no longer happening online, but is taken offline with the potential of transforming the tourist's physical experience. Participants summarise this type of enhancement outcome as follows.

> *"It would be like a new experience if we did it the first time and it worked out." (Laura)*

> *"It is a completely new experience because you have to actually have to DO some things THAT the game play takes place because if you are not actively participating you don't get entertained. You are entertaining YOURSELF more than you are playing and it's a completely new experience." (Jane)*

In summary, the analysis of the enhancement highlighted assistance, enhancement and the creation of new experiences as possible outcomes. It underlines the diversity of ICTs integration and to what extent tourists might seek to use ICTs in their experiences. While some tourists might integrate ICTs only for assistance, others might use it to enhance activities and others might seek to experiment with new technologies to create entirely new ways in which a tourist experience can emerge. Besides these differences, the findings indicate that these outcomes are not necessarily mutually exclusive. A couple of participants noted that, in fact, they see ICTs in a multiple purpose role to assist, enhance and create new experiences, sometimes at the same time:

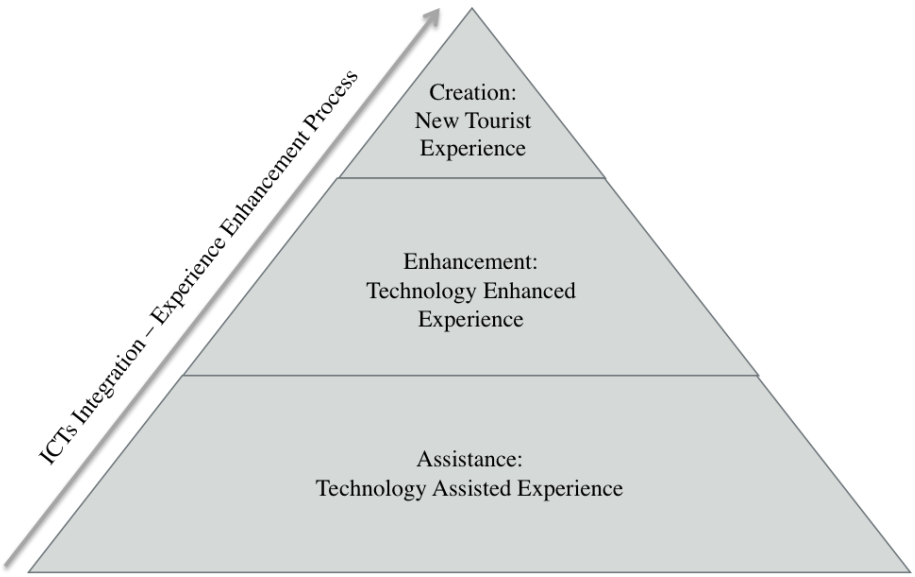
> *"I think it is all three things, sometimes you can get new things that without technology you cant do, sometimes you do something without technology and you enhance your experience." (Andrew)*

"If there is something like the famous Augmented Reality it can create a whole new experience but for transportation service it is more enhanced rather than created than completely new." (Teresa)

Whether it is a distinct outcome or a combination of assistance, enhancement and the creation of a new experience, there is evidence that ICTs play an integral role in transforming the traditional tourist experience. Technology does so by making experiences easier and better, adding extra value, something novel and creating a more informed, enjoyable and exciting experience. The findings coincide with recent literature suggesting that new media tools can allow for changed actions, which can lead to a more pleasurable experiences overall (Tussyadiah and Fesenmaier, 2009). Drawing upon the analysis of the enhancement outcomes, the theoretical contribution was conceptualised in an 'Experience Enhancement Hierarchy' model.

Figure 5-4 shows that with increasing ICTs integration, different levels of experiences emerge, moving from pure assistance to enhancement towards a new tourist experience. It makes a novel contribution to services marketing and management, and tourist experience theory in specific. Beyond existing studies, which merely recognise the fact that ICTs mediate and enhance experiences (Tussyadiah and Fesenmaier, 2009; Wang et al., 2012), this hierarchy suggests a more differentiated view of tourist experience enhancement. The model offers a framework to understand ICTs integration as a differentiated endeavour with several enhancement processes and outcomes levels.

Figure 5-4. Tourist Experience Enhancement Hierarchy



Source: Author

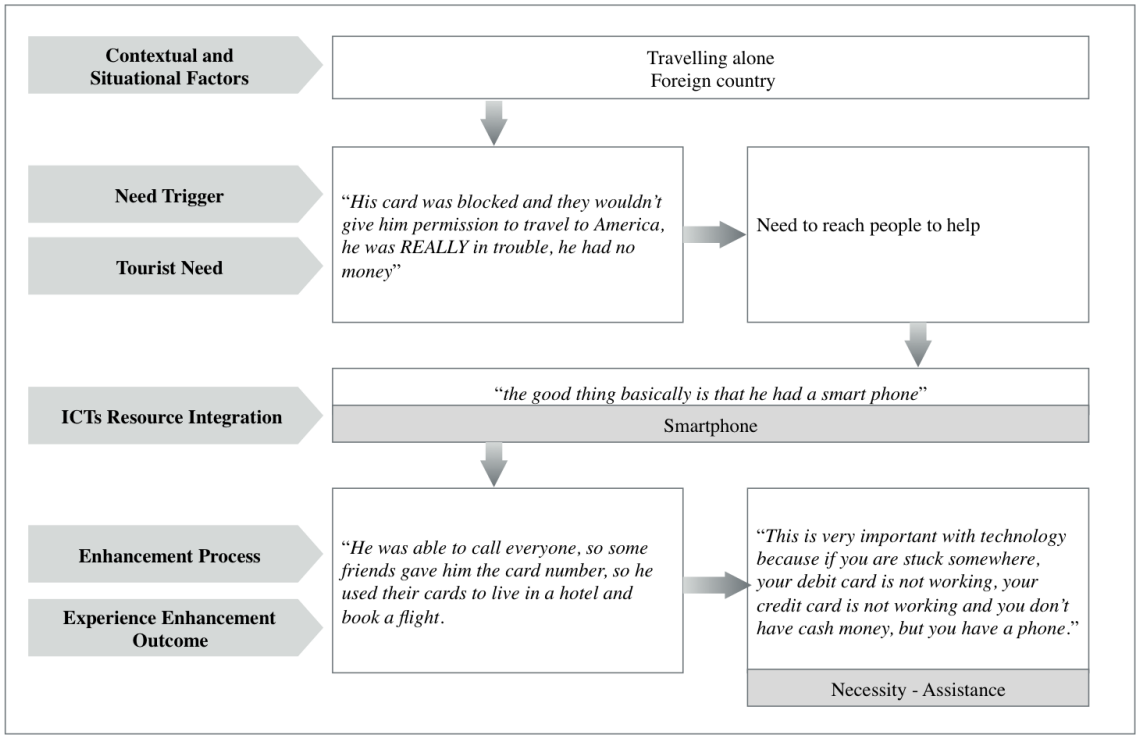
5.5.3 Tourist Experience Enhancement Scenarios

In analysing the overall enhancement process, the findings revealed that a broad variety of scenarios occur. This is mainly due to the diversity of variables, which influence the ways and extents to which experiences are enhanced. Depending on the identified contextual and situational factors, need situations and ICTs resource integration, different processes and outcomes take place. This last section thus has the scope to demonstrate the interplay of these variables and show how these conditions shape the enhancement process. To do so, five representative experience narratives (Scenarios 1 to 5) were selected, compartmentalised and graphically conceptualised as 'enhancement scenarios'. The narratives were structured according to the enhancement process, including 1) the *contextual and situational factors*, 2) *tourist need triggers and needs*, 3) *ICTs resource integration*, 4) how *the enhancement process* took place and 5) what *enhancement outcomes* were obtained. These scenarios shall not only underpin the theoretical contribution, but also provide practical insights into the detailed steps of how the tourist experience enhancement process through ICTs unfolds.

Scenario 1: Emergency situation

Scenario 1 (reported by participant Andrew in Figure 5-5) reflects a prime example of a tourist encountering an emergency situation that is solved by the integration of ICTs. The participant reports a story of a friend, who has encountered a precarious situation while travelling alone abroad. Arriving at immigrations at one airport in Canada, he did not possess a transit visa, but has already travelled half around the globe to get there. When trying to purchase a return flight, the credit card became locked, due to undeclared usage abroad, which has left the tourist stuck without any monetary means. The case shows that ICTs, specifically the mobile phone, was used to save the situation, by getting in touch with people. As a result, the emergency situation was resolved and the tourist experience was prevented from becoming a possibly negative experience.

Figure 5-5. Enhancement Scenario 1: Emergency Situation

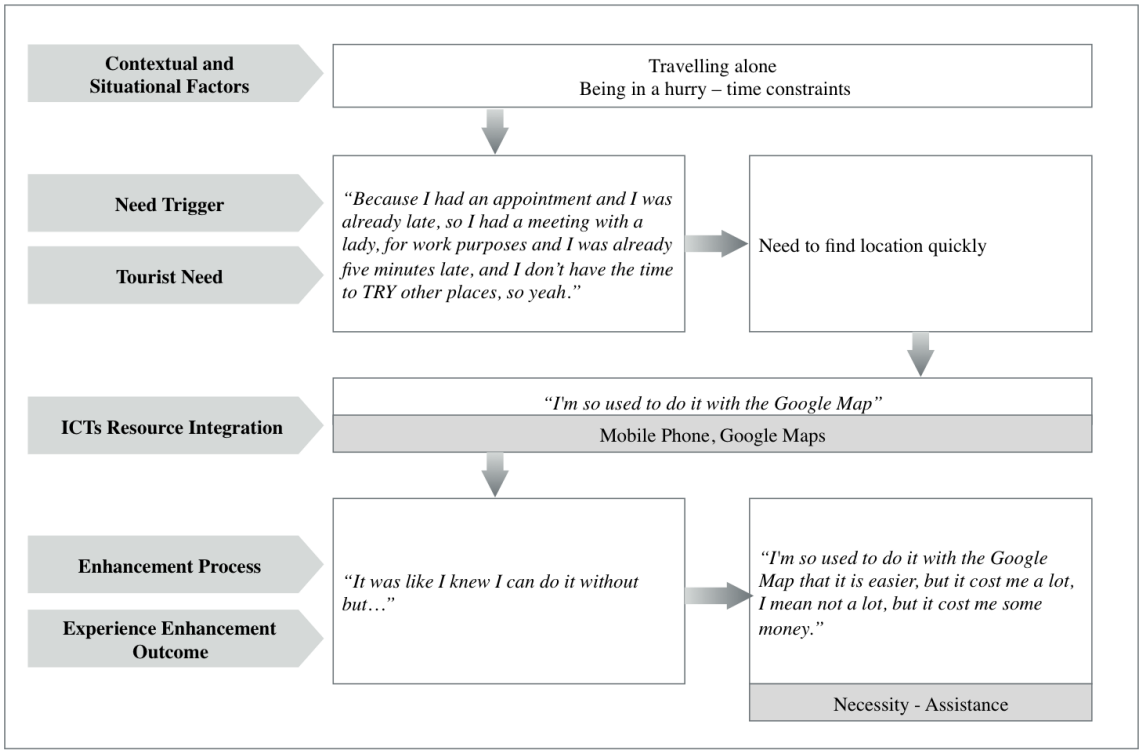


Source: Author

Scenario 2: Time-Sensitive Situation and Navigation

Scenario 2 (reported by participant Aaron in Figure 5-6) presents an example of a how ICTs can enhance experiences, when tourists are under time pressure. Aaron recalled a scenario when he was running late for a meeting in an unknown urban environment. Due to time pressure and delay, traditional means, such as asking people or identifying the current position and sought location on a paper map might have been successful, but would have taken up too much time. ICTs were thus used in this situation to provide an instant and timely solution to identify the current position and the fastest route to the point of interest.

Figure 5-6. Enhancement Scenario 2: Time-Sensitive Situation and Navigation

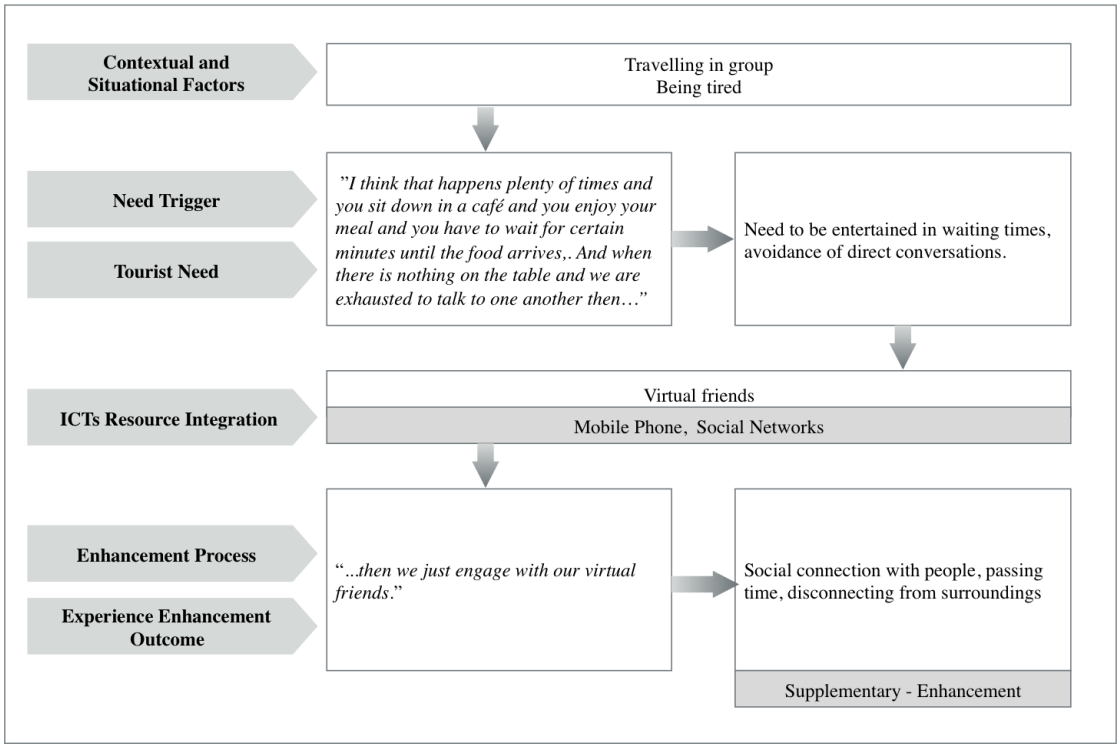


Source: Author

Scenario 3: Connection and social engagement

Scenario 3 (reported by participant Teresa in Figure 5-7) shows an example of ICTs being implemented to connect and engage with distant people from the own social network. The scenario represents a group travelling together, while waiting for the food ordered in a restaurant to arrive. In the meantime, the group members were not talking to each other, but instead used their mobile devices to connect to people within their own social networks, who were not part of the tourist experience on-site. In this case, ICTs were used to mentally 'disconnect' from the physical surroundings and to enhance the experience through the connection and social enagement with the network online.

Figure 5-7. Enhancement Scenario 3: Connection and Social Engagement

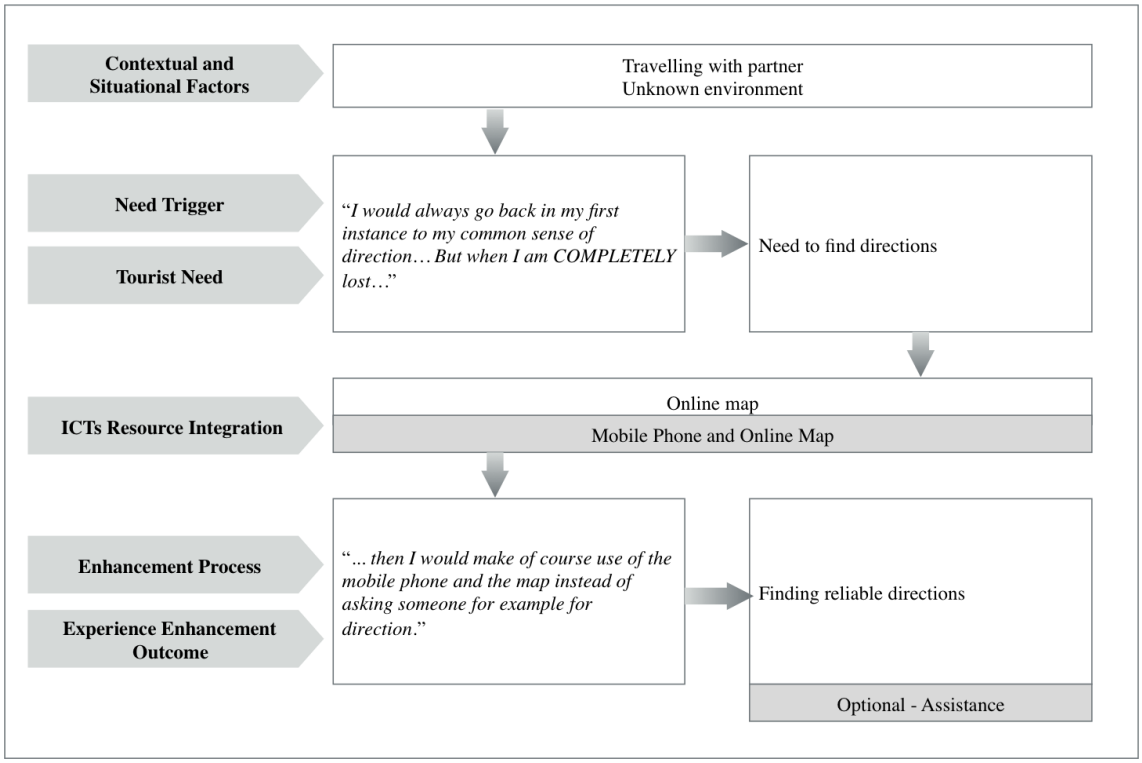


Source: Author

Scenario 4: Sense of orientation and reliability

Scenario 4 (reported by participant Jane in Figure 5-8) shows an example of a participant encountering the choice of using ICTs or traditional resources to gather information, such as using the own common sense of direction or asking people for advice. The scenario demonstrates that an evaluation period takes place. In a first instance, the own sense of direction is consulted (operant resource), but in case the tourist is completely lost in an unknown environment, the mobile device (operant resource) is integrated instead. The tourist experience is enhanced in that ICTs are integrated as reliable resources to understand not only where to go, but in the first place, where the tourist currently is, through geographical positioning.

Figure 5-8. Enhancement Scenario 4: Sense of Orientation and Reliability

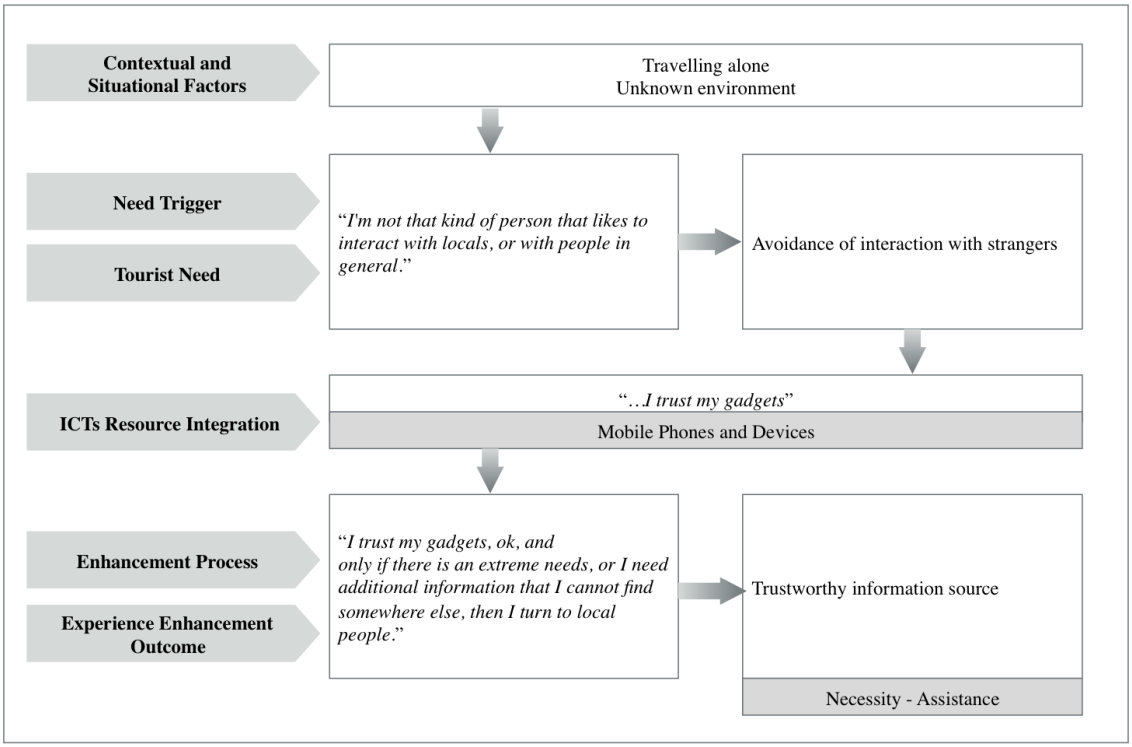


Source: Author

Scenario 5: Avoidance of social contact

Scenario 5 (reported by participant Sandra in Figure 5-9) shows an example of a positive attitude towards ICTs and the preference of technological devices over human interaction with strangers and locals. This is a frequently reported scenario, in which tourists state that they would rather avoid social contact or only engage with people if necessary, e.g. in case technology is unavailable or fails. Rather, tourists seem to integrate ICTs as tools to address needs independently and use them as a trustworthy resource of information to enhance their tourist activities on-site.

Figure 5-9. Enhancement Scenario 5: Avoidance Social Contact



Source: Author

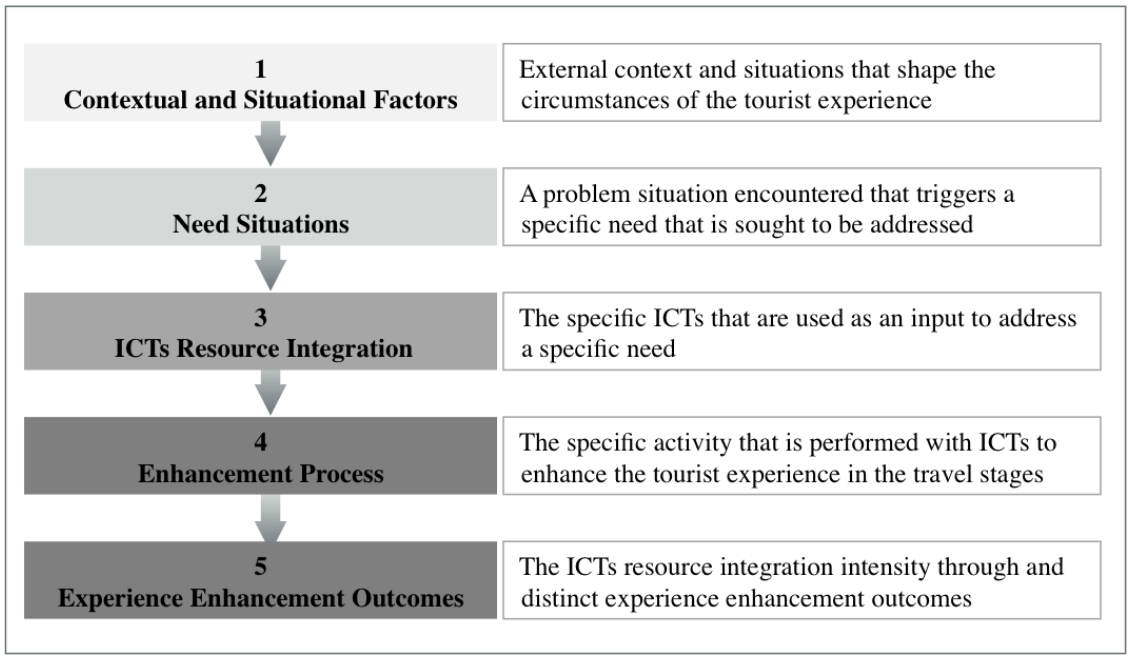
5.6 *Chapter Summary*

Chapter 5, the second of the findings chapters, has shed light on the overall tourist experience enhancement process. While a few recent studies have attempted to explain the outcome dimensions of ICTs use in experiences (Wang et al., 2012), research efforts have not gone as far as to explain the actual underlying process of how these experiences are enhanced. In adopting a S-D logic perspective, this study is the first to investigate and offer a detailed theoretical and practical contribution on the tourist experience enhancement process. In its exploratory nature, this study illuminated that several contextual factors condition the tourist experience and the extent to which ICTs might be integrated. It was then found that tourists encounter a number of need situations throughout the travel process, in which initial need triggers and specific needs emerge. Thereby ICTs are integrated as an operant resource to address these in order to assist and enhance the experience. In this vein, it was found that the use of ICTs is not only dependent upon the individual's attitude, available resources and types of ICTs, but also on the enablers and barriers that condition to which extent ICTs can be used.

The tourist experience enhancement process further revealed that ten main tourist activities are enhanced by ICTs in the pre/during/post stages of the travel process. Due

to the transforming power of ICTs, it appeared that technologies changed tourist activities and the stages in which such activities are performed. The final section contributed to a better understanding of experience enhancement process outcomes. The findings underlined that there exists not only one single outcome, but rather varying intensity levels of ICTs integration and a hierarchy of possible experience outcomes. This section provided a critical first contribution to knowledge, by explaining the enhancement process, its underlying variables, factors, processes and outcomes. Figure 5-10 depicts an outline of the enhancement process, consisting of six distinct steps, including 1) *contextual and situational factors*, 2) *need triggers*, 3) *tourist needs, 4) resource integration*, 5) *the enhancement process* and the subsequent 5) *experience enhancement outcome.*

Figure 5-10. Five-Stage Tourist Experience Enhancement Process

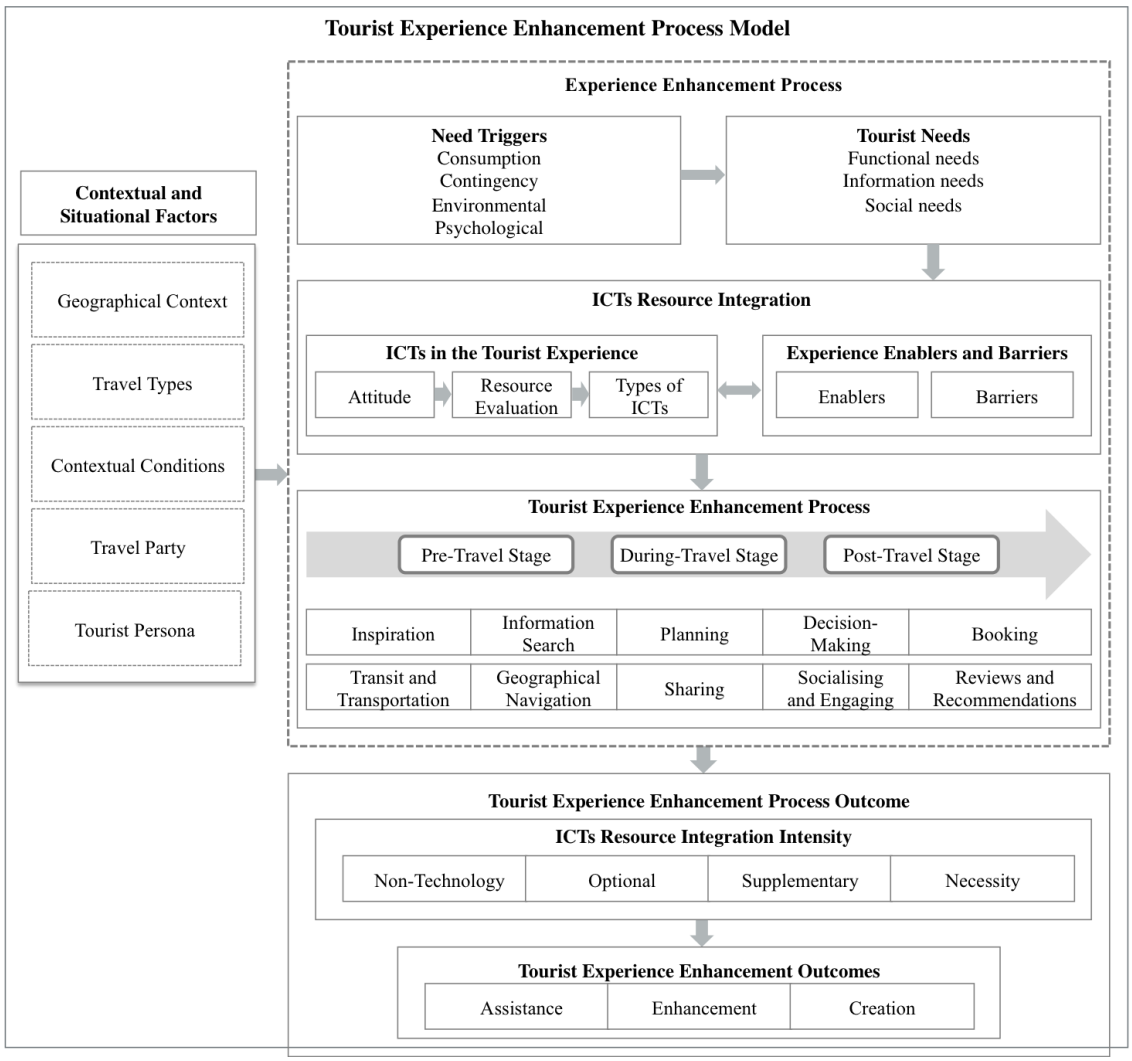


Source: Author

The final contribution of this chapter is the Tourist Experience Enhancement Model, shown in Figure 5-11. Its originality lies in the fact that it is the first model to graphically depict how the identified variables are interconnected and the enhancement process occurs. It has relevance for services marketing and tourism, as it can be used to better understand the complexity of the tourist experience enhancement process. It could provide a valuable tool for analysis to understand how contextual factors might impact the usage of ICTs. By predicting the needs of tourists, service providers could help address common tourist needs and support the ICTs required in such situations.

Moreover, the knowledge about experience outcomes could further serve tourism and marketing organisations to facilitate specific experiences. Rather than aiming for a 'generic enhancement', they could take the opportunity to differentiate themselves in facilitating specific experiences. Most importantly, it is necessary for services marketing and tourism providers to understand that ICTs can not only be used to assist the travel process on a functional level, but can also be integrated for the improvement of experiences and the creation of new types of experiences.

Figure 5-11. Tourist Experience Enhancement Process Model



Source: Author

CHAPTER 6: FINDINGS: THE TECHNOLOGY ENHANCED TOURIST EXPERIENCE

Chapter 6 presents the third and final findings chapter and sheds light on the *Technology Enhanced Tourist Experience*. Having analysed the enhancement process of the tourist experience in the previous chapter, this chapter now turns its focus to the *factors* that constitute the new experience concept. It does so by integrating the analysis from both Research Phase 1 Content Analysis and Research Phase 3 Consumer In-Depth Interviews and addressing the following research objectives:

Research Objective 2 and Research Objective 4

To identify the granular elements of the tourist experience

To identify the factors that constitute a Technology Enhanced Tourist Experience

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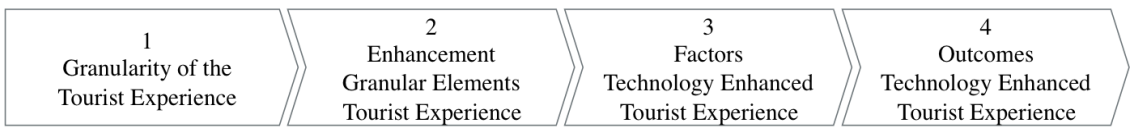
The chapter is divided into four main sections. The first part presents the *granularity of the tourist experience* and then shows how the granular elements of the tourist experience change through ICTs as part of the *enhancement of the granular elements of the tourist experience*. These findings make a valuable knowledge contribution in identifying the traditional tourist experience, its most detailed components, and how these change through ICTs. The third central part of this chapter illuminates the thesis' key theoretical contribution, which is the presentation of the twelve *factors* that constitute the *Technology Enhanced Tourist Experience*. The final part of the chapter goes takes the contribution even further and goes beyond the experience itself to reveal the *outcomes* of the *Technology Enhanced Tourist Experience*.



Based on the analysis, the findings are conceptualised in a graphical model entitled 'Factors of the Technology Enhanced Tourist Experience', presented in Figure 6-3. The model offers an illustration of the twelve emerged factors and contributes by capturing the 'essence' of the new experience concept. The findings are subsequently discussed in

Chapter 7, in which the tourist experience and the *Technology Enhanced Tourist Experience* are contrasted and the final theoretical contribution is presented.

6.1 *The Granularity of the Tourist Experience*

What constitutes a tourist experience, in other words, what are the factors, i.e. the granular elements, that create a tourist experience? This question was central as it allowed developing an in-depth understanding of the tourist experience, before going on to explore a new type of tourist experience, the *Technology Enhanced Tourist Experience*. In reviewing the existing literature, a common approach towards exploring new types of tourist experiences, such as extraordinary experiences, wine experiences or memorable experiences emerged (e.g. Arnould et al., 2002; Roberts and Sparks, 2006; Tung and Ritchie, 2011). In this context, most studies have gone into developing new experience concepts, while using the existing theoretical framework of the tourist experience only to a limited extent.

This study challenges this approach and advocates the merit to integrate the existing knowledge fundament in conceptualising new types of tourist experience. It thus had the scope to explore the new concept of the *Technology Enhanced Tourist Experience*, by understanding how the tourist experience can be enhanced by ICTs. Therefore, it set out to examine the tourist experience concept, and its granular elements, first, before exploring *how it is enhanced*, and finally, how a *new type of tourist experience is created*. This section presents the findings emerged in Research Phase 1, the Qualitative Content Analysis, which had the scope to address Research Objective 2.

Research Objective 2

To identify the granular elements of the tourist experience

Research Phase 1 was performed through a qualitative content analysis of 65 journal articles. The detailed research design has been outlined in Chapter Methodology 3.4, while the findings are presented below. Table 6-1 offers the sample profile of the journal articles, demonstrating the year of publication, the academic discipline and the nature of the research. It was found that the majority of journal articles were published post 2000. More precisely, 37 articles were published between 2000 and 2009 and 15 from 2010 to date. The distribution of the academic disciplines shows that most articles

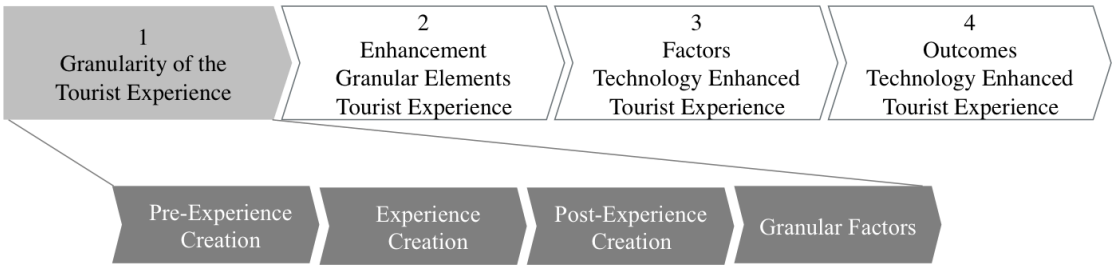
can be ascribed to the field of tourism (46), while a smaller number of articles are associated with the disciplines of anthropology, geography, heritage, hospitality and leisure. In assessing the nature of the research, it was found that the majority of journal articles are empirical (30), followed by conceptual pieces (26), while only a smaller number can be categorised as review articles (6) or a combination of the above (3).

Table 6-1. Profile Journal Articles: Granularity of the Tourist Experience

Factor	***Categories***	***Frequency***
Year	1970s	1
	1980s	2
	1990s	10
	2000s	37
	2010-present	15
Academic Discipline	Anthropology	1
	Geography	2
	Heritage Tourism	3
	Hospitality	7
	Leisure	5
	Tourism	46
Nature of Research	Conceptual	26
	Review	6
	Empirical	30
	Combination	3
Total		**65**

Source: Author

The subsequent sections present the granularity of the tourist experience. Following the structure of the codebook (see Chapter 3, Table 3-8), the findings are structured as follows: 1) *pre-experience creation*, 2) *experience creation*, 3) *post-experience creation*, 4) and *granular factors of the tourist experience*. For matters of clarification, these dimensions do not reflect the pre/during/post travel stages, but rather pertain to the processes that occur for an experience to be created. Each dimension discusses the most salient factors and provides a detailed summary table at the end. The tables depict the progressing granularity of the tourist experience by revealing four main levels. These levels illuminate the progress from the overall category to the Granular Dimension I, Granular Dimension II and Granular Dimension III, with the last one representing the most granular, i.e. detailed and fine-grained, elements of the overarching category. For instance, Table 6-2 shows 'pre-experience creation' (category), in which 'internal influences within the individual' (Granular Dimension I) were identified, including the 'socio-psychological state of mind' of the individual (Granular Dimension II). On a most granular level this dimension is composed of disposition, attitude, preferences, preconceived values, self-esteem or personality traits (Granular Dimension III).



6.1.1 Pre-Experience Creation

The content analysis revealed that the pre-experience creation is composed by two primary factors, including a) external factors that influence the individual and b) internal factors embedded within the individual. *External factors* include, for instance, if the travel is undertaken solitarily or with a travel party that accompanies the tourist (partner, family and friends) (Aho, 2001). Moreover, the image of a tourism destination was found as a further external factor influencing the experience a tourist will have. The destination image is shaped by people, places, lifestyles and image mediators, which the individual has consumed (e.g. TV, stories, books, sources).

In addition, several *internal factors* within the individual determine the subjective creation of an experience (Ek et al., 2008). For instance, the state of mind of the tourist at the particular moment of the experience (Andersson, 2007), influenced by the mood (Gretzel and Jamal, 2009), basic, social and intellectual needs (Andersson, 2007), as well as personal resources (Ritchie and Hudson, 2009) and the social network (Aho, 2001) predetermine the creation and outcome of a tourist experience. Beyond that, several further factors were found to shape the pre-experience expectation development. These include the individual's characteristics (Ryan, 2010), personality and value system (Larsen, 2007; Ryan, 2010), attitudes and preferences (Binkhorst and Den Dekker, 2009), travel motivations (Ryan, 2000), past experiences as well as the level of own resource integration (Gross and Brown, 2006; Cohen and Ben-Nun, 2008; Gopalan and Narayan, 2010).

Additionally, it was found that experiences differ significantly, depending on the type of travel undertaken (Lengkeek, 2001; Larsen, 2007; Volo, 2009). Moreover, there is evidence that anticipation and the formation of expectations constitute core parts of the experience creation. An individual's tourist experience (*Erfahrung*) through previous visits, the duration of stay and the formed expectations (Botterill and Crompton, 1996), or the lack thereof (Gopalan and Narayan, 2010), play a critical role in such expectation formation. Moreover, several common mediators were found to shape this process.

These include information material or online content, such as videos and images (Tussyadiah and Fesenmaier, 2009). These mediators are particularly important for first time visitors, who might not know what to expect before arriving at the destination (Gopalan and Narayan, 2010). Due to the range of external and internal experience antecedents that influence the experience creation, it is argued that the emergent experience is inherently individual (Larsen, 2007). This implies that different tourists live the same experience differently (Cohen and Ben-Nun, 2008). Table 6-2 provides a structured summary of the granular elements that relate to the pre-experience creation.

Table 6-2. Pre-Experience Creation

Category	***Granular Dimension I***	***Granular Dimension II***	***Granular Dimension III***
Pre-experience creation	External factors influencing individual	Travel party	Collective, alone/individual, group, people experience is shared immediately/remotely
		Destination image	People, places, lifestyles, artefacts, values and social relationships
		Destination image and expectation mediators	Narratives, representations, television programmes, movies, magazines, technology, videos, texts, personal travel stories, people, family and friends, documentary, photography, brochures, souvenirs, official sources, marketing material, guidebooks
	Internal influences within individual	Socio-psychological state of mind	Disposition, attitude, preferences, anticipations, expectations, lack of expectations, expected value, personality traits, preconceived values and perceptions, personal value system, mental state in service encounter, self-esteem, state of effect (mood, emotions), thoughts, feelings, norms and standards
		Individual motivations	Good time, leisure, festivals, day out, attractions, sunshine, socialising, learning and education, learning new cultures, seeing new places, visiting places seen through representations; search for: modern, pilgrimage, escape from boredom, meaningful experience, pursuit of pleasure, authenticity, local culture, sensual and hedonic pleasures, romantic experience, spiritual pleasure, novelty, belonging to a meaningful community, value and meaning, restoration of personal well-being, alternative lifestyles, entertainment, psychological rewards, identity and self-actualisation
		Individual travel personality and type	Explorer, individual mass, and organized mass
			Recreational, diversionary, experiential, experimental, existential mode
			Passive/active tourism, absorption/immersion
			Leisure holiday, urban tourism, sport tourism, backpacking, food tourism, cultural tourism, heritage tourism, sun and beach holiday, adventure holiday, museum tourism, shopping tourism, adventure, wine, urban trip, dark tourism experiences
		Individual needs	Basic needs, social needs, intellectual needs, relative importance of service, satiable needs, arousal needs, recreational needs, escapism needs, hedonic needs

Continued			
Pre-experience creation	Internal influences within individual	Socio-demographic factors	Age, gender, social background, economic class, cultural background
		Individual resources	Time, money, perceived prior knowledge about place, familiarity, skills, self contribution, social network, skills, creativity, knowledge, ability, effort, task ease/difficulty, and luck
		Individual tourist experience	Number of visitation, duration of visitation, repetition and return pattern, past experiences, status, level of involvement
		Individual resource integration	Co-creation, mental capacity, active participation in the experience, engagement and immersion, emotional, physical, spiritual or intellectual engagement

Source: Author

6.1.2 Experience Creation

The experience creation occurs as an interdependent process between the individual tourist undergoing the experience and three related dimensions. These include a) a determined physical environment (Ek et al., 2008), b) the social interaction with people and stakeholders and c) the consumption of products and services (Gopalan and Narayan, 2010). A number of conditions are required for an experience to emerge. Table 6-3 provides the summary of the physical environment, which is discussed below.

Table 6-3. Experience Creation: Physical Environment

Category	*Granular Dimension I*	*Granular Dimension II*	*Granular Dimension III*
Experience creation	Physical environment	Facilities and surroundings	Interior, decor, special atmosphere, heritage buildings, well-organized theme parks, packaged tours, and sporting activities, beach opportunities, cost, hospitality, eating and drinking facilities, accommodation facilities, transport, cities, villages, museums, gardens, shopping areas, theme, parks, ethnic enclaves, scenic sites, museums, ethnic enclaves, attractions
		Natural environment	Natural scenery, attractions, coastline/beaches, wilderness, wildlife and animals, natural landforms/caves/gorges, plants, national parks, natural and built environments of tourism destinations, lakes, vegetation, flowers, mountains rivers
		Historic environment	Local historic sites, old buildings, historic museums, monuments, local history
		Socio-cultural environment	Local cultural sites, activities, art galleries, theatres, local leisure activities, fashion, music, testing trips, culture weekends, social regionalization of the landscape, heritage, cultural identity, cultures of exotic peoples
		Socio-cultural performance	Traditional crafts, handicrafts, languages, gastronomy, perfume-making, porcelain painting, painting, drawing, sculpture, carving, dance, song, music, art, folk music

Continued			
Experience creation	Physical environment	Political environment and processes	Immigration procedures at ports, cleanliness of the destination, condition of roads, safety of the destination, traffic congestion on roads, language barriers, freedom to design and deviate from a fixed itinerary, cleanliness, air pollution, accessibility
		Context determinants	Safety, comfort, environment, social, cultural, religious and linguistic norms, political considerations, community history, friendliness of people, weather, symbols, signage, atmosphere
		Physical service amenities	Availability restaurants, gift shops, local amenities and public facilities, public restrooms, accessibility, train and bus stations, universal non-places, international airports, motorways, shopping malls
		Soundscape	Sounds, human voices, sounds from nature (birds, seashores, winds), media sounds (video, audio technologies), foreign languages spoken by residents (Spanish, Chinese), everyday noise (traffic, construction sounds)
		Tastescape	Cuisine, gastronomy, local specialities, real taste and original flavour
		Smellscape	Smells, spices, flavours
		Sensescape	Textures, colours, aesthetics
		Mediascapes	Documentaries, photography, brochures, souvenirs, programmes, sport programmes, cooking magazines

Source: Author

The *physical environment* was identified as the first factor that shapes the emergence of an experience. This is because experiences are contextual (Sfandla and Björk, 2013) and as such, are not isolated, but rather context-dependent and shaped by its surrounding variables. The physical environment was found to be composed of several factors, such as the natural landscape (Arnould and Price, 1993), the historic environment, the socio-cultural and religious aspects (Jennings et al., 2009) and performances (Li, 2000; Pritchard and Havitz, 2006), which constitute the essence of a destination. Within a micro-context, the physical environment is also characterised by the physical facilities (Andersson and Mossberg, 2004) and built environments, such as the activity site, accessibility and buildings (Carmichael, 2005). Furthermore diverse sensescapes, including auditory, aesthetic, kinaesthetic and sensory stimuli (Mannell and Iso-Ahola, 1987) were identified to influence the tourist's body and the nature of the experience creation (Jansson, 2002; Trauer and Ryan, 2005; Mossberg, 2007; Matteucci, 2013).

Social interaction was identified as an integral part of the tourist experience creation process. Experiences are not created in isolation but as a sum of personal contacts, communication and engagement with others. These can include the interaction with the own personal party, such as family members, friends and partners (Ek et al., 2008), interactions with customers (Andersson and Mossberg, 2004; Carmichael, 2005),

temporary bonds with strangers (Arnould and Price, 1993), staff on-site (Cohen and Ben-Nun, 2008) and local residents and communities (Jennings et al., 2009). Experiences are also shared with wider stakeholders, including other tourists, service providers, governments and communities in the context of experiencescape (Jennings et al., 2009; Mehmetoglu and Engen, 2011; Wang et al., 2012). Depending on the social surrounding and the social processes (co-creation, sharing, friendship, appreciation, bonding, communitas) that occur at the time of the experience, the nature and outcomes of experiences are uniquely shaped (Arnould and Price, 1993; Wang, 1999; Binkhorst and Den Dekker, 2009; Tung and Ritchie, 2011). The granularity of the social interactions are summarised in Table 6-4.

Table 6-4. Experience Creation: Social Interaction

Category	***Granular Dimension I***	***Granular Dimension II***	***Granular Dimension III***
Experience creation	Social interaction	Travel party	Own personal party, significant others, family members, friends and partners, single traveller, couple
		Fellow tourists	Other tourists and visitors, temporary bonds with strangers, unacquainted travellers
		Service provider	Staff on-site, employees, tour guides
		Supporting service providers	Hoteliers, taxi drivers, tour operators, shop owners, policemen, stakeholders, governments
		Local community	local residents and local, community, local performers at festivals, indigenous groups
		Social processes	Togetherness, communitas, co-creation, actual contact, verbal exchange, communication, spiritual sharing, values and beliefs, disclosure of knowledge, improvement of friendships, development of new friendships, increased appreciation of one another, social development, interpersonal authenticity, social value

Source: Author

The *product and service environment* was identified as critical in the creation of experiences, as most tourism and hospitality experiences are an amalgam of products and services (Gopalan and Narayan, 2010). In this context it is of great importance to consider not only the settings in which a) products and services are consumed, but also how b) these are delivered. The product and service environment consists of several tangible and intangible aspects that are necessary for an experience to emerge. These include service amenities (attractions, accommodation, stores and catering), accommodation (hotel, caravan park and camping), food and restaurant (quality of food, service quality and cleanliness), transportation (public transport facilities and accessibility) and shopping (local shopping facilities, opening hours and price levels). They further encompass recreational facilities (recreational and outdoor facilities),

tourist information (accuracy and helpful advice), activities (extreme adventure, sport activities, trekking, climbing and skiing), events (trips, performance and service encounters), as well as service providers and staff (employees, destinations, hotels, attractions and tour guides) (Carmichael, 2005; Gopalan and Narayan, 2010).

To facilitate the experience 'delivery', elements of ambience and atmosphere (ambience, interior and hygiene), the standard of service delivery (service quality, staff attitude and satisfaction), provider resources (skills, knowledge and performances), resources and staging themes (special backgrounds, visual enhancement and thematic ideas) need to be fulfilled for a tourist experience to be created (Quan and Wang, 2004; Mossberg, 2007; Zehrer, 2009; Ryan, 2010). The service infrastructure thus provides a package of services and products that interact with the company's resources and form the basis for an experience. The granular elements of the product and service environment are outlined in detail in Table 6-5.

Table 6-5. Experience Creation: Product and Service Environment

Category	***Granular Dimension I***	***Granular Dimension II***	***Granular Dimension III***
Experience Creation	Product and service environment	Service amenities environment	Tourist attractions, accommodation, shopping, catering, special events, signage, information sources, wine routes, sightseeing, dining, buying souvenirs, stores, museums, cities, sporting arenas, shopping centres, neighbourhood parks, tourist attractions, theme parks, festivals and musicals, tax-free stores, restaurants, car rentals, resorts
		Accommodation	Accommodation services, hotels, caravan parks,: hospitality, camping facilities, rooms and setting
		Food and restaurant	Food, basic, good, extraordinary, food and service, quality of the food, the nature of the service, restaurant cleanliness, fresh food, service quality
		Transportation	Public transport facilities, accessibility, road signage, railways, congestion, roads
		Shopping	Local shopping facilities, service, merchandise, opening hours, price level
		Recreation	Recreation facilities, activities, operator services, access to out-of-doors, fishing/surfing
		Tourist information	Perceptions of information available to tourists, including accessibility, accuracy, helpful advice offered, amount of information available
		Activities	Extreme adventure, extreme sport activities, trekking, climbing, skiing, and mountain biking, health wellness, learning based travel, photography courses, designer hotels, speciality hotels, exclusive luxury resorts in highly aesthetic landscapes, dark tourism, heritage
		Events	Trip, event, attraction visitation, performance, service encounter, scenery and visiting local attractions, heritage buildings, historical sites, restaurants and attractive landscapes
		Service provider and staff	Employees, destinations, hotels, attractions, stakeholders, hotel personnel and staff, tour guides

Continued			
Experience Creation	Product and service experience delivery	Ambience and atmosphere	Ambience, company, interior of the hotel, places to sit, cleanliness and hygiene, affordable prices, helpfulness of staff, convenience, price level, value for money, friendliness, offers, options, hygiene
		Service delivery	Fulfil standards, lead to satisfaction, high quality, material product, behaviour and attitude of employees, and the environment
		Provider service resources	Economic competencies, social skills and justice, and mental capacity for understanding experiences, time, skills, goods, services, setting up, arranging, and contextualizing, or decontextualizing, facilitating, technicalities, administration, performances
		Experience staging resources	Tailored background, music, visual enhancement, celebrities, experience landscape, technological equipment
		Experience staging themes	Ecosystem, freak, terror, adventure, technological wonder, and romance, local environmental, cultural, historical, mythological theme

Source: Author

Experience creation conditions appear to be determinant for an experience to emerge. The content analysis revealed five main conditions in which a tourist experience is created. Experiences develop a) as an outcome of a consumption activity when products and services are turned into experiences, b) when something is beyond expectations and the ordinary, c) when a personal transformation of the tourist occurs, d) when the interaction with an environment occurs and e) when a subjective state and cognitive process is triggered. In essence, an experience is the element connecting production and consumption, with the company (delivering labour, resources and output) and the consumer (buying input, consumption set and experience output) (Andersson, 2007). This renders the experience an outcome of the 'consumption project' (time, skills, goods and services) (Andersson, 2007).

Thereby aspects, such as good food and service quality (see pre-experience creation) are essential requirements for the facilitation of an experience (Carmichael, 2005). To turn simple products and services into an *experience*, the 'musts' (e.g. food) need to be addressed first. They need to be satisfactory and fulfil physiological, social and intellectual needs. Moreover, the product or service needs to add utility beyond what is expected and transcend the ordinary. In this way something new, extraordinary and unexpected is created (Andersson and Mossberg, 2004), which can add value to the consumer's life (Jennings et al., 2009).

Experiences are created as individuals interact with the environment (Ek et al., 2008), are actively involved (Huang and Hsu, 2010) and engaged on an emotional, physical,

intellectual or spiritual level (Gretzel and Jamal, 2009; Jackson et al., 2009). As a result, experiences are created in the mind of the consumer and emerge when a transformation, a subjective state and a cognitive process occurs. Experiences are generated as an amalgam of stimulations to the senses, the heart, and the mind (Jennings et al., 2009). They occur when subjective occurrences take place, including personal reactions (Chen and Chen, 2010), a psychological process (Quan and Wang, 2004; Huang and Hsu, 2010), a cognitive process (Jennings et al., 2009; Volo, 2009) or a personal transformation through learning processes that enhances the mind (Aho, 2001; Gretzel and Jamal, 2009; Huang and Hsu, 2010; Volo, 2009). Table 6-6 summarises the granular elements of the experience creation conditions.

Table 6-6. Experience Creation

Category	***Granular Dimension I***	***Granular Dimension II***	***Granular Dimension III***
Experience creation	Experience creation conditions	Outcome of consumption activity	Amalgam of products and services
			Outcome of consumption project (activity with purpose of experience generation) and consumption set (resources needed for a consumption project: time, skills, goods and services
			Sum total of satisfactions with individual elements or attributes of all the products and services that make up the experience
			Sum of a past product related consumption activities
			The element connecting production and consumption
			Created with company (buying inputs, labour, creating output) and consumer (buying input, consumption set, experience)
			Intentional use of services as the stage, and goods as props, to engage customers in a way that creates a memorable event
		Beyond expectation, ordinary	Something new or add something extraordinary to the customer
			Spontaneity, novelty of characteristics, new or extraordinary
			Beyond satisfactory purchase experience
Experience creation	Experience creation conditions	Beyond expectation, ordinary	Experiences that transcend creature comforts and standard (or non-standard) tourism fare
			Meaningful experience beyond those merely memorable
		Learning process	Greater moments of life
			Learn, increase capabilities and transform state of mind or body
			Tourist's learning, understanding, and feeling the places visited and the culture embedded in these places

Continued			
Experience creation	Experience creation conditions	Interaction with environment	Trigger for experiential state is interpersonal interaction
			Participant's abilities are equal to the level of challenge that exists within a given situation
			Active involvement and participation, emerges through interactions with others
			An embodied perception of place, where tourists use all their bodily senses to experience a destination
			Provide beyond the expected: could be. The physiological, social and intellectual needs are fulfilled and the visit to the restaurant adds utility beyond what is expected
			Result of encountering, undergoing, or living situations. They are triggered stimulations to the senses, the heart, and the mind.
			Result of communication and interaction between tourists' internal mental activity and their outer appearance
			Arise from activities, the environment, as well as the social contexts embedded in the activities
			Created by tourist himself in interaction with environment
			Result of the interaction between destinations and tourist
			Sum of our interactions with our environment and the lessons we learn from these during the process of experiencing
		Subjective state and cognitive process	Subjective personal reactions and feelings that are felt by consumers when consuming or using a service
			Process of perceiving and recognising a variety of sensory information obtained within a landscape
			Subjective psychological process
			Construction of own perception on the basis of earlier experiences, competences and expectations
			Result of a process of assimilating the world into a structure of cognitive maps or schemas
			Psychological state that people experience and describe as special, out-of the ordinary, and/or meaningful

Source: Author

6.1.3 Post-Experience Creation

The post-experience creation essentially consists of several processes that occur once the experience has been created. Two main elements represent this aspect, including a) the evaluation of the experience and b) the outcomes of the experience. Table 6-7 provides a summary of the experience evaluation process. The *evaluation of the experience* is determined by three main elements, including a) the factors that influence the experience evaluation, b) the dimensions of experience evaluation and c) the process

of experience evaluation. When an experience emerges, it is subjectively perceived and evaluated by the individual tourist (Tung and Ritchie, 2011). Several factors determine how experiences are evaluated. These include the own subjective responses and feelings, relative importance of the experience as well as the predefined expectations that are contrasted with the obtained result (Otto and Ritchie, 1996; Andersson, 2007; Oh et al., 2007; Mehmetoglu and Engen, 2011).

Table 6-7. Post-Experience Creation Evaluation

Category	***Granular Dimension I***	***Granular Dimension II***
Post experience creation	Influence on experience evaluation	Emotional/affective state triggers memories of experiences
		Subjective, emotional and personal responses to aspects of service delivery
		Subjective, individual affective feelings
		Individual's open minds, hearts and senses toward place
		Individual experience outcomes embedded in the tourist's processes
		Subjective personal reactions to consumption
		Degree to which the perceived experience agrees with the expected or desired outcome for each relevant experience aspect
		Relative importance of a service dimension to tourist
		Dependent on input resources within human being
	Dimensions experience evaluation	Performance quality, experience quality, satisfaction, revisit intention, tangibles quality, staff service quality, product value, and product reliability, empathy, responsiveness, reliability, tangibles, and assurance
	Process experience evaluation	Informal/systematic, peak-evaluation of moments, evaluation in all stages of travel
		Evaluation of impressions, perceived experience against the expected outcome, relative importance
		Positive outcomes (inner disposition), negative outcomes (external situation)
		Relationship quality, value, satisfaction and behavioural intentions
		Past experiences against current experience

Source: Author

In this process, tourists evaluate a number of variables, such as performance, service and product quality (Cole and Scott, 2004; Carmichael, 2005; Jennings et al., 2009; Gopalan and Narayan, 2010), reliability, empathy, responsiveness and assurance of services (Gretzel and Jamal, 2009; Gopalan and Narayan, 2010). The findings further indicate that while the evaluation process can generally take place informally, in some cases this occurs systematically (Aho, 2001). In addition, it was found that experiences are not only evaluated at one given point in time, but are continuously assessed throughout all stages of the travel process (Carmichael, 2005). In this process, tourists

compare the outcomes of what they actually experienced with the rewards they expected (expectations) or wanted to extract from the experience (personal needs and motivations) (Graefe and Vaske, 1987).

Experience outcomes were found to follow the tourist experience evaluation. Experience outcomes within the individual include mental affections and new meanings (Aho, 2001), feelings and impressions (Kim et al., 2011), psychic benefits (Huang and Hsu, 2010) and satisfaction as a delight through feelings of pleasure (Andersson and Mossberg, 2004). Satisfaction with tourist experiences is understood as the total sum of satisfactions with single components of all products and services (Gopalan and Narayan, 2010) and the match between predefined expectations and the actual performance (Jennings et al., 2009). Experience outcomes were also found to be significant for the individual tourist, by restoring physical and mental powers, achieving rejuvenation, recreation and pleasure (Cohen, 1979). Educational outcomes, such as memory and intellect (Jennings et al., 2009) and social outcomes, such as bonds, sociability, pleasure and happiness (Kim et al., 2011) are further outcomes identified.

Value outcomes were found as central to experiences. Value emerges when a service is co-created through compelling co-creation experiences (Ek et al., 2008) or when an experience is perceived as value for money (Jennings et al., 2009). Altogether, it is noted that these single outcomes are not mutually exclusive, but are interdependent by influencing one another. For instance, experience quality, value, satisfaction and behavioural intention stand in close relation to each other. Behavioural intention emerges from the experience evaluation and includes changing plans, revisiting places and recommending the experience to others (Chen and Chen, 2010). A total of eleven granular experience outcomes were identified, as shown in Table 6-8.

Table 6-8. Post-Experience Creation Outcomes

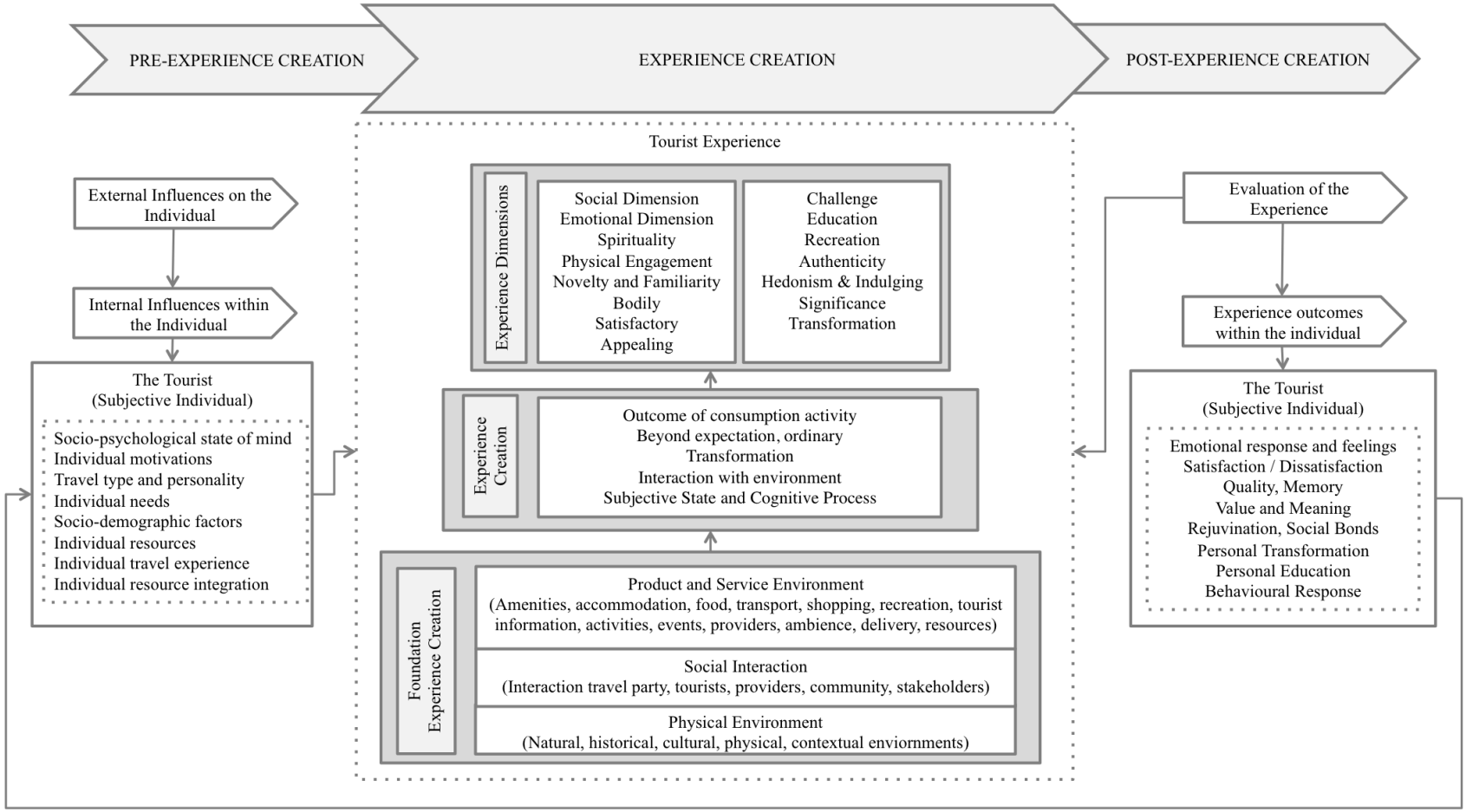
Category	***Granular Dimension I***	***Granular Dimension II***	***Granular Dimension II***
Post experience phase	Outcome variables	Emotional response and affective feelings	Affective feelings of pleasure, happiness, irritation, guilt, sadness, enjoyment, being sociable
			Joy, absorption, amazement, astonishment
			Excitement, thrill, fun, fear, challenge
			Psychological arousal, excitement to stimuli
			Feelings of nervousness, exhaustion, apprehension: crowding, frustrating, nervous, on-edge, anxious, eustress, scary, frightening, fearful, adventures, physical exertion, but was purposefully achieved

Continued			
Post experience phase	Outcome variables	Satisfaction	Intensity of positive surprises, extraordinary experiences, expectations fulfilled or exceeded
			Subjective mental state felt, personal significance, narrative, memory
		Dissatisfaction	Other tourists' undesirable behaviour
			Gap between expectation and experience
			Positivity or negativity of interpersonal interaction
			Lack of effort, ability, task difficulty, bad luck
		Quality	Quality, reputation, host and guest interactions, profitability, place and identity, motivation, combination of peak and supporting experiences
		Memory	Events that stand out, are distinctive, extremely vivid, long lasting memories
		Value and meaning	Time and effort devoted to the reflection
			Monetary value, social value, value given and received in exchange situations
			Parts of experiences that are desired to be repeated
			Stories, meaning, narrated representations
			Psychic value of fun and relaxation, attracting, exciting, pleasing, hedonic value of enjoyment
			Sensory, emotional, cognitive, behavioural and relational values, value for money
		Rejuvenation	Rejuvenation, recreation, restoring physical and mental powers, sense of well-being
		Social bonds	Establishing a Bond with the 'Other'
			Personal rewards from social interactions
			Social relationships
		Personal outcome transformation	Life-changing transformation, mindfulness, self-discovery, feelings of awareness, achievement, self-identity, self-development, self-actualization
			Confidence/self-worth, self-importance, and affiliation, self-esteem
			Personal growth, mental and physical transformation
		Personal outcome education	Increased knowledge, increased capabilities and skills, sports, language, learning benefits
			Intellectual development, enhanced creative capacities, intellect, behavioural frames, cognitive maps
		Behavioural response	Change of plans and behaviour patterns, customer loyalty, intention to revisit
			Future expectations, desire for novelty (new experiences) nostalgia (relive past experiences)
			Re-experience through recollection of memories, storing of experiences
			Willingness to recommend, spreading positive word of mouth, private/public sharing, recommendation, feedback

Source: Author

Figure 6-1 provides a summary of all identified granular elements and offers a model towards a better theoretical understanding of the tourist experience. It is valuable in that it integrates all elements into one holistic model, which depicts the pre-experience creation influences, the experience creation, the dimensions of the experience and the post-experience evaluation and outcomes. This theoretical contribution, emerged through Research Phase 1, not only provides a theoretical contribution on its own, but has also provided the theoretical foundation supporting the empirical exploration and theory development of the *Technology Enhanced Tourist Experience*.

Figure 6-1. Integrated Model of the Tourist Experience



Source: Author

6.1.4 Granular Factors of the Tourist Experience

Having analysed the granular elements of the pre-experience, experience creation and post-experience creation, the analysis went further to distil the *granular factors* that constitute the tourist experience. A distilling process was performed to merge identical notions and achieve a reduced essence of the tourist experience. This process resulted in a total of *50 single granular* elements, which were categorised in a total of *15 granular tourist experience factors*. These experience factors represent the main theoretical contribution of Research Phase 1 and provide the theoretical input for the data collection process of Research Phase 3. Only through the knowledge about these 15 factors, it was possible to explore how the tourist experience (and its granular elements) can be enhanced by ICTs. All granular factors are presented in alphabetical order below.

The first factor that was identified, is *'appealing'*. It reflects the importance of the aesthetic, creative and interesting nature of the tourist experience (Wang, 1999; Gretzel and Jamal, 2009; Kim et al., 2011). *'Authenticity'* was found as the next factor of the tourist experience, representing the notion of getting real and authentic insights, getting to know cultures, places and locals, while experiencing the atmosphere on-site (Cohen, 1979; Wang, 1999). In recognising the bodily involvement in the experience, the granular factor *'bodily experience'* emerged, portraying tourists as physically immersed, experiencing with their body and having multisensory pleasures through smelling, hearing, seeing, tasting and feeling of the tourist experience (Ek et al., 2008; Ritchie and Hudson, 2009). The next factor identified regards the notion of *'challenge'*. It captures the idea of participating in extreme activities and experiencing the sense of adventure and risk, spontaneity and freedom as core parts of the tourist experience (Arnould and Price, 1993; Stamboulis and Skayannis, 2003).

A further key factor identified is *'education'*, which underpins the educational, informative and intellectual engagement during tourist experiences. It not only serves the purpose to gather knowledge, but also allows extending the mind and creating unique learning experiences during travel (Otto and Ritchie, 1996; Aho, 2001; Kim et al., 2011). The factor *'emotional dimension'* refers to the tourist's emotional engagement and affective feelings that are obtained through experiences (Aho, 2001; Jennings et al., 2009; Huang and Hsu, 2010). The factor *'hedonism & indulging'* pertains to entertainment, pleasure, enjoyment, fun and playfulness as part of an actively immersed tourist experience (Quan and Wang, 2004; Jennings et al., 2009). A further

factor determined relates to *'novelty & familiarity'*, recognising the notions of surprise, novelty and excitement as an integral part of the tourist experience. Experiences are often portrayed as new, exciting and different (Andersson, 2007; Kim et al., 2011). Beyond that, experiences can also be characterised by an element of familiarity in that tourists seek to repeat pleasurable experiences (Jansson, 2002; Quan and Wang, 2004).

The factor *'physical engagement'* underlines the practical and physical involvement of tourists in the experience through activities and behaviours, learning and acquisition of new skills and abilities (Gretzel and Jamal, 2009; Kang and Gretzel, 2012) and the outcome of the physical participation in the tourist experience (Aho, 2001; Jennings et al., 2009). The factor *'recreation'* represents tourists' desires and needs to recreate, refresh, relax and enhance their well-being as an essential part of their experiences. In this vein, the idea of escapism and separation from home to mentally and physically recharge, often in combination with nature, was recognised as a key purpose and outcome of the tourist experience (Cohen, 1979; Gopalan and Narayan, 2010; Kim et al., 2011). The subsequent factor *'satisfaction'* was identified as a main element, recognising experiences that are created by exceeding expectations and getting something extraordinary (Andersson and Mossberg, 2004; Ritchie and Hudson, 2009).

The factor *'significance'* was identified as a further core element, indicating that tourist experiences are perceived as personally meaningful, significant and memorable (Kim et al., 2011; Tung and Ritchie, 2011). The *'social dimension'* reflects the importance of social interactions, involvement and engagement with multiple people, such as friends, family, tourism providers, other tourists or local communities. Social practices are an integral part of experiences to develop personal bonds, create collectiveness and foster meaningful relationships with others (Arnould and Price, 1993; Carmichael, 2005; Ek et al., 2008). *'Spirituality'* was determined as a prevalent dimension primarily relating to the tourist being religiously and spiritually engaged in the context of the tourist experience (Cohen, 1979; Jansson, 2002). The fifteenth and final factor relates to *'transformation'*. It essentially captures the tourist's personal growth, self-discovery and transformation by having a positive, unique and life-changing tourist experience (Arnould and Price, 1993; Gross and Brown, 2006). Table 6-9 summarises all granular factors, while Figure 6-2 provides a graphical model of the factors.

Table 6-9. The Granular Elements of the Tourist Experience

Category	***Granular Dimension I***	***Granular Dimension II***	***Literature Source***
Appealing	Aesthetic	Visually appealing experiences	Stamboulis and Skayannis, 2003; Gretzel and Jamal, 2009; Kim et al., 2011; Tung and Ritchie, 2011
	Creative	Creative experiences	Lee et al., 1994; Prentice et al., 1998; Selstad, 2007; Gretzel and Jamal, 2009
	Interesting	Interesting experiences	Cohen, 1979; Beeho and Prentice, 1997; Vitterso et al., 2000
Authenticity	Authenticity	Authentic, real experiences	Cohen, 1979; Wang, 1999; Uriely, 2005; Ek et al., 2008; Jennings et al., 2009; Wang et al., 2011
	Local culture, bonds, place attachment	Experiencing local new cultures, places	Cohen, 1979; Gross and Brown, 2006; Kim et al., 2011
	Atmosphere	Experiencing the local atmosphere	Carmichael, 2005; Cohen and Ben-Nun, 2008; Ek et al., 2008
Bodily experience	Multisensory	Using all senses in the experience, multisensory pleasure	Ek et al., 2008; Gretzel and Jamal, 2009; Jennings et al., 2009; Ritchie and Hudson, 2009; Volo, 2009; Huang and Hsu, 2010; Kim et al., 2011; Mehmetoglu and Engen, 2011
	Bodily sensations and pleasure, touching, smelling, hearing,	Feeling the experience with the body	Jansson, 2002; Ek et al., 2008; Gretzel and Jamal, 2009; Jennings et al., 2009; Tussyadiah and Fesenmaier, 2009
Challenge	Extreme	Extreme activities and behaviours	Gretzel and Jamal, 2009
	Challenges, adventure risk involvement	Adventure, risk-tasking, challenges, overcome challenges	Arnould and Price, 1993; Lee et al., 1994; Beeho and Prentice, 1997; Stamboulis and Skayannis, 2003; Gretzel and Jamal, 2009; Tung and Ritchie, 2011
	Personal control, power, freedom of choice, sense of freedom	Being in control, having the power, having choice, getting carried away	Arnould and Price, 1993; Lee et al., 1994; Otto and Ritchie, 1996; Chen and Chen, 2010; Gopalan and Narayan, 2010; Mehmetoglu and Engen, 2011
	Spontaneity	Acting without planning, letting be process spontaneous	Arnould and Price, 1993; Lee et al., 1994; Ritchie and Hudson, 2009
Education	Attention and focus, awareness, deep concentration	Being fully focused and attentative	Mannell and Iso-Ahola, 1987; Arnould and Price, 1993; Lee et al., 1994; Otto and Ritchie, 1996; Ooi, 2003; Tussyadiah and Fesenmaier, 2009; Tung and Ritchie, 2011
	Education	Gathering education, information	Beeho and Prentice, 1997; Carmichael, 2005; et al., 2011
	Intellectual engagement and development	Being intellectually stimulated, Fresh, eye-opening, learning experience	Gretzel and Jamal, 2009; Jennings et al., 2009; Huang and Hsu, 2010; Kim et al., 2011; Tung and Ritchie, 2011
	Informative engagement	Information, being engaged	Otto and Ritchie, 1996; Aho, 2001

Continued			
Education	Stimulation mind	Being stimulated with the mind, thought provoking	Beeho and Prentice, 1997; Jennings et al., 2009
	Cognitive value	Being cognitively stimulated	Vitterso et al., 2000; Jennings et al., 2009; Ritchie and Hudson, 2009; Zehrer, 2009
Emotional dimension	Emotional engagement	Emotional response, being emotionally engaged in the experience	Arnould and Price, 1993; Aho, 2001; Jansson, 2002; Ek et al., 2008; Jennings et al., 2009; Ritchie and Hudson, 2009; Huang and Hsu, 2010
	Affective and empathic	Affective and empathetic feelings	Larsen, 2007; Gretzel and Jamal, 2009; Jennings et al., 2009; Volo, 2009; Chen and Chen, 2010; Kim et al., 2011
Hedonism & indulging	Entertainment	Entertained, absorbing	Cohen, 1979; Stamboulis and Skayannis, 2003; Kim et al., 2011
	Hedonism, enjoyment and pleasure, excitement	Feeling enjoyment and pleasure	Cohen, 1979; Arnould and Price, 1993; Lee et al., 1994; Cole and Scott, 2004; Jennings et al., 2009; Ritchie and Hudson, 2009; Chen and Chen, 2010; Gopalan and Narayan, 2010; Huang and Hsu, 2010; Kim et al., 2011
	Fantasies, feelings and fun, playfullness	Having fun, positive feelings	Prentice, 1998; Quan and Wang, 2004; Gretzel and Jamal, 2009; Jennings et al., 2009; Tussyadiah and Fesenmaier, 2009; Huang and Hsu, 2010
Novelty & Familiarity	Surprise, unexpectedness, unpredictability	Freshness, speciality, unexpected	Quan and Wang, 2004; Ritchie and Hudson, 2009; Chen and Chen, 2010; Kim et al., 2011; Ritchie et al., 2011; Tung and Ritchie, 2011
	Excitement	Exciting, thrilling experiences	Otto and Ritchie, 1996; Beeho and Prentice, 1997; Chhetri et al., 2004; Chen and Chen, 2010; Kim et al., 2011
	Novelty	Novel, new, once-in-a-lifetime, different experience, something new	Cohen, 1979; Arnould and Price, 1993; Andersoon and Mossberg, 2004; Quan and Wang, 2004; Andersson, 2007; Ek et al., 2008; Kim et al., 2011
	Familiarity, repetition of pleasure;	Known, repetition of familiar experiences	Jansson, 2002; Quan and Wang, 2004
Physical Engagement	Practical engagement	Being engaged by doing practical activities	Aho, 2001; Stamboulis and Skayannis, 2003; Ritchie and Hudson, 2009
	Physical engagement	Being physically engaged in the experience, exercise, flow state	Beeho and Prentice, 1997; Vitterso et al., 2000; Aho, 2001; Quan and Wang, 2004; Gretzel and Jamal, 2009; Jennings et al., 2009; Huang and Hsu, 2010
	Behavioural value	Physical and behaviour involved	Jennings et al., 2009; Zehrer, 2009; Kim et al., 2010
	Requirement of skills	Gathering new skills and abilities	Aho, 2001; Gretzel and Jamal, 2009; Tung and Ritchie, 2011; Kang and Gretzel, 2012

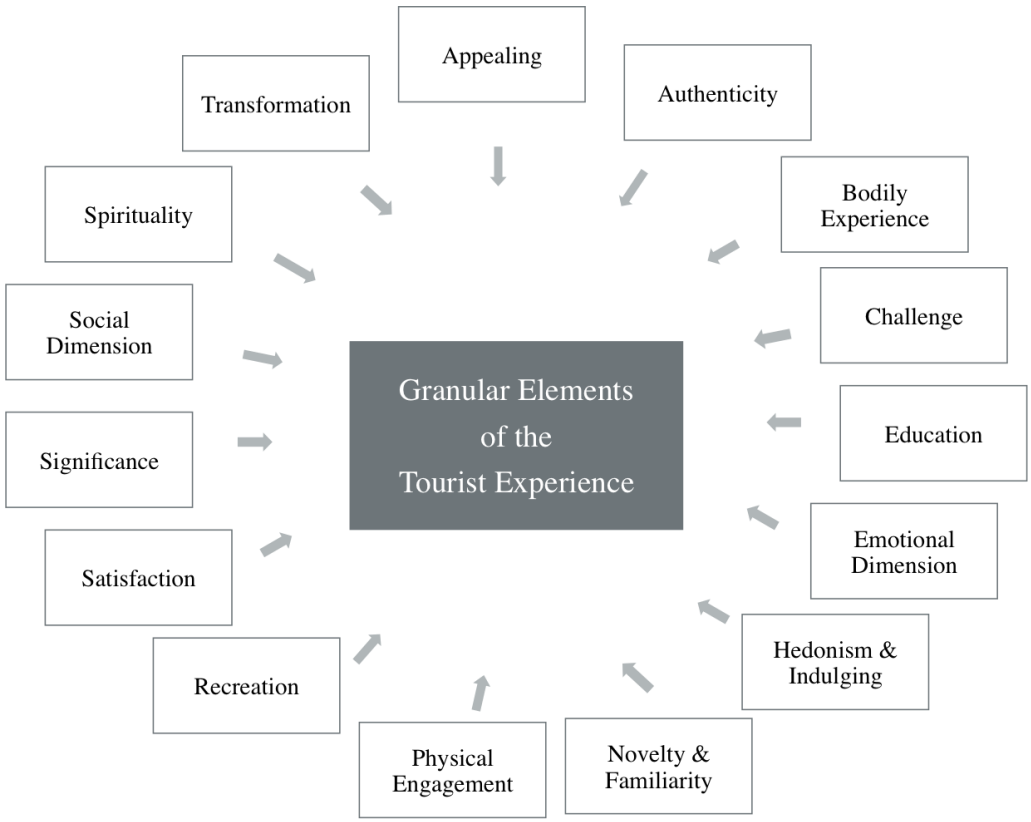
Continued			
Recreation	Recreation, refreshment, rejuvination	Being able to recreate, refresh	Cohen, 1979; Jennings et al., 2009; Kim et al., 2010
	Relaxation, ease, physical comfort, safety	Relaxing, unwinding, feeling safe and at ease	Arnould and Price, 1993; Lee et al., 1994; Otto and Ritchie, 1996; Beeho and Prentice, 1997; Carmichael, 2005; Ritchie and Hudson, 2009; Chen and Chen, 2010; Gopalan et al., 2010
	Well-being	Feeling well mentally, physically	Cohen, 1979
	Enjoyment nature	Nature, communion	Arnould and Price, 1993; Prentice, 1998
	Escapism and sense of separation	Escaping from environment, home, physical stressors, temporal reversal	Cohen, 1979; Lee et al., 1994; Prentice, 1998; Stamboulis and Skayannis, 2003; Quan and Wang, 2004; Kim et al., 2010
Satisfaction	Beyond expectation and satisfaction	Expectations have been exceeded	Andersoon and Mossberg, 2004; Kim et al., 2010; Mehmetoglu and Engen, 2011
	Extraordinary	Something out of the ordinary	Andersoon and Mossberg, 2004; Jennings et al., 2009; Ritchie and Hudson, 2009
	Priceless	High worth/value	Jennings et al., 2009
Significance	Meaningfulness	Personal, meaningful experience	Cohen, 1979; Aho, 2001; Ooi, 2003; Gretzel and Jamal, 2009; Kim et al., 2010
	Personal significance	Personal significant, feeling recognised, important, relevant	Cohen, 1979; Otto and Ritchie, 1996; Aho, 2001; Jennings et al., 2009; Chen and Chen, 2010; Kim et al., 2010
	Memorability and timelessness	Memorable experience	Lee et al., 1994; Otto and Ritchie, 1996; Chen and Chen, 2010; Kim et al., 2010; Tung and Ritchie, 2011
Social Dimension	Active involvement, dynamic process, interactivity and participation, immersion	Tourists actively involved	Arnould and Price, 1993; Selstad, 2007; Ek et al., 2008; Gretzel and Jamal, 2009; Chen and Chen, 2010; Huang and Hsu, 2010; Kim et al., 2010; Ryan, 2010; Tung and Ritchie, 2011
	Interpersonal interaction	Meeting people, interacting	Abrahams, 1986; Otto and Ritchie, 1996; Carmichael, 2005
	Social interaction, sociability with friends and family	Interaction and social relations with close contacts	Aho, 2001; Carmichael, 2005; Ek et al., 2008; Gretzel and Jamal, 2009; Huang and Hsu, 2010
	Engagement, collectiveness, community bonds, communitas	Engaging with other people, being together, local community	Arnould and Price, 1993; Cole and Scott, 2004; Trauer and Ryan, 2005; Ek et al., 2008; Jennings et al., 2009
	Social and interpersonal Relationships	Developing bonds and relationships, teamwork	Arnould and Price, 1993; Jennings et al., 2009; Huang and Hsu, 2010; Tung and Ritchie, 2011
Spirituality	Spiritual engagement	Being spiritually, religiously engaged	Cohen, 1979; Jansson, 2002; Jennings et al., 2009; Tussyadiah and Fesenmaier, 2009

Continued			
Transformation	Self-realisation, expression, expansion, growth, self-discovery	Personally growing, realising personal dreams and goals	Cohen, 1979; Arnould and Price, 1993; Botterill and Crompton, 1996; Gross and Brown, 2006; Tung and Ritchie, 2011
	Psychological and physical transformation	Transforming oneself	Aho, 2001; Ritchie and Hudson, 2009; Huang and Hsu, 2010

Source: Author

Figure 6-2 provides a 15 factor circular model of the granular elements of the tourist experience. This knowledge foundation was used for Research Phase 3, the findings of which are presented below. It reveals how the 15 granular factors of the tourist experience change (and are specifically enhanced) by ICTs (section 6.2), before turning to introduce the final twelve factors that constitute the *Technology Enhanced Tourist Experience* (section 6.3). These two-fold findings make a particularly valuable contribution to the literature. They interlink the existing tourist experience understanding with ICTs to develop an in-depth understanding about the potential enhancement of the tourist experience and its inherent granular elements. By doing so, the changing factors of the tourist experience are established, before the entirely new factors of the *Technology Enhanced Tourist Experience* are presented.

Figure 6-2. Model of the Granular Elements of the Tourist Experience



Source: Author

6.2 *Enhancement of the Granular Elements of the Tourist Experience*

Having identified the granular elements of the tourist experience, this section now turns its focus to the enhancement of the granular elements. In the qualitative interviews (Research Phase 3) participants were asked the question "How do ICTs enhance/facilitate/improve/diminish the factors presented in the Granularity Sheet? Given the aim of the study, the main scope was to extract the *enhancement* of these factors. By asking participants how ICTs might *diminish* the tourist experience, a balanced and unbiased view was gathered to account for positive and negative effects. This is in line with the recent academic debate on value co-destruction, suggesting that the integration of resources might not necessarily lead to the co-creation of value, but can also lead to the diminishment of experiences and a 'co-destruction' of value (Plé and Chumpitaz Cáceres, 2010). The findings reveal three possible outcomes, which describe how the tourist experience changes through ICTs, indicating that it is enhanced (Enhancement), remains the same (Maintenance) or is diminished (Diminishment).

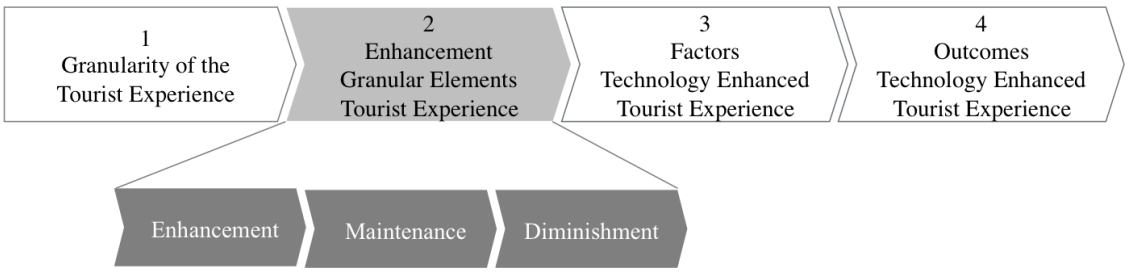


Table 6-10 provides an overview of the three themes emerged with the respective number of sources and references coded in NVivo. The findings suggest that the enhancement of the granular factors, represented by 150 unique references, is the most dominant occurrence. It is followed by diminishment (50 references) and maintenance (7 references). While the research is qualitative in nature, and hence frequencies are less important, the distribution of references nonetheless provides an interesting insight into potential patterns. Based on that, it seems that most participants have expressed clear views that ICTs either enhance or diminish the granular experience factors. Only in a very minor number of cases, participants argued that ICTs might have neither a positive nor a negative impact, but the experience roughly remains the same, which is reflected in the category 'Maintenance'. The findings of each theme are outlined in detail next.

Table 6-10. Granularity Enhancement – Maintenance – Diminishment

Granular Elements Tourist Experience	***Enhancement***		***Maintenance***		***Diminishment***	
Appealing	6	9				
Authenticity	6	9	2	3	1	1
Bodily Experience	2	3	2	2	1	1
Challenge	7	10			3	6
Education	11	26				
Emotional Dimension	5	7			1	1
Hedonism & Indulging	4	5			1	1
Novelty & Familiarity	6	9				
Physical Engagement	3	4			3	8
Recreation	4	6	1	1	3	12
Satisfaction	3	7			1	1
Significance	2	3			1	1
Social Dimension	12	35	1	1	6	10
Spirituality	1	1			4	7
Transformation	4	7				
Total	**15**	**150**	**4**	**7**	**13**	**50**

Source: Author

6.2.1 Enhancement of the Tourist Experience

Supported by a total of 150 participant narratives, enhancement was identified as the most dominant theme of change. Table 6.10 demonstrates that all 15 granular factors are enhanced, to varying extents, with a couple of factors appearing particularly strong. The three most intensively enhanced factors appear to be a) the social dimension (35), followed by b) education (26) and c) challenge (10). While all factors are enhanced, the findings shall highlight and discuss the most dominant ones below.

The *social dimension* was identified as the factor, which participants mentioned most frequently to be enhanced through ICTs. When reflecting on how this dimension is improved, participants described that technology increases the involvement with other people, enables to play social games and allows them to share moments and create more intense social interactions and relationships. For instance, several participants highlighted that tourist experiences become more social when they actively participate in gaming with other players or connect to get in touch, communicate and interact with people through social media platforms. Beyond the increase of interactions, ICTs also seem to enhance the sharing component, as tourists engage and share experiences with their social network of friends and families and create collectiveness together. Participants noted that social relationships also increase because of ICTs. Technologies are used not only to create more intense contact with the own social network, but also help facilitate the contact with strangers, as tourists can easily connect with ‘strangers’,

other tourists, locals or companies online. The following two examples reflect the enhancement of this dimension.

> *"The whole technology, especially what we have talked about, with social media to share the experience and everything and engage." (Sam)*

> *"Social definitely as well, because it enables you to share and engage with people if you feel the need to." (Rachel)*

According to participant narratives, '*education'* appeared as one of the three granular factors that are enhanced the most. Through ICTs, the level of education and knowledge appears to be extended on multiple levels. Participants reported to be able to easily access and gather as much information as needed. The factor education is moreover enhanced as ICTs are integrated in many cases as 'educational tools'. Tourists feel that they can gather information, become more educated about a destination and learn something new. Questions and curiosity can be addressed effortlessly, as tourists use ICTs to gather information in real-time on the spot. By using several platforms, the majority of participants described that the tourist experience is enhanced through a more informative engagement and a better intellectual stimulation. The following three examples explain the perceived enhancement of the educational granular element:

> *"Of course, yes, educational. TOTALLY. By using technologies I will get different information that will help me to get lots of updated information, educating me, learn something new as well." (Veronica)*

> *"And if you get information on the spot in real-time then that is the essence, that is quite good. Stimulation mind, yes, informative engagement, yes, that could work with technology a lot with all these new things out there." (Sandra)*

> *"I think educational, definitely because you can kind of follow up on things there and then with your mobile phone and your tablet rather than going home and researching it then." (Rachel)*

The third granular element enhanced through ICTs is '*challenge*'. The findings indicate that ICTs enhance the level of control and freedom of the tourist experience. By using their devices, tourists are more independent and spontaneous, due to the decreasing need to rely on 'static' information resources offered by tourist offices, receptions or information points. While the perceived challenge appears to be reduced by ICTs, the findings suggest that the use of mobile applications and LBS can lead to an increased, albeit different, sense of adventure, discovery and gaming. Moreover, the possibility of

mobile inspiration and decision-making on the spot enhances the level of spontaneity, which contributes to the degree of freedom perceived, as expressed by one participant:

> *"I can do anything. I can search anything. I will have a lot of information which is spontaneously to come over, so it is freedom." (Veronica)*

In addition to the three described factors above, several further noteworthy granular elements were found to be enhanced, however to less strong extents. For instance, '*appealing'* is enhanced because ICTs facilitate sharing images online, which renders the tourist experience more attractive and aesthetic. The factor '*authenticity*' is enhanced as experiences become more authentic, real and genuine. For instance, mobile ICTs increase the possibilities to discover authentic places in the surroundings, while consumer online reviews provide for more transparent and real accounts, which reflect the authenticity of the tourist experience. The factor '*novelty and familiarity*' is boosted in that ICTs foster the discovery of new and unknown places and allow for a sense of experimentation and novelty of technology itself. Moreover, ICTs can facilitate the repetition of pleasure by re-enacting and re-constructing past experiences through online saved trails, shared pictures, online check-ins and social media posts.

The '*bodily*' element is enhanced as ICTs can artificially enhance the tourist's senses, in particular the visual sense, by using augmented reality, and the auditory sense, by listening to music on their smartphones. Due to the use of augmented reality applications, the experience becomes more visually engaging and overall more attractive for the tourist. The '*emotional*' enhancement is primarily related to the elevated positive feelings obtained through an improved, more socially intense, co-created, enriching and emotionally engaging experience. The granular element '*indulging*' is enhanced in that the experience becomes less boring, more entertaining and more involving through playfulness and gaming.

The '*physical*' granular dimension seems to be enhanced through the physical productivity obtained, in that information access and navigation become easier and levels of efficiency are increased. The '*recreational*' aspect of the tourist experience appears to be enhanced through mobile applications, which support recreational activities, such as walking, hiking or social gaming in the destination. The '*satisfactory*' dimension is enhanced in that ICTs allow for experiences that are beyond expectations and awake emotional pleasures. Due to personal recognitions or engagement online, participants reported to feel more satisfied than in traditional tourist experiences.

While only mentioned by a small number of participants, the element '*significant*' is enhanced in that the tourist experience becomes more personally meaningful and special through ICTs. Similarly, the '*spiritual*' dimension is enhanced, as ICTs can allow for better interpretation of a place and its religion through additional information. Last but not least, the granular element of '*transformation*' was reported to improve in that ICTs allow for personal growth by facilitating a better understanding of the local culture and place. Moreover, personal recognition and self-expression through social media have a transformational power, which leads to an enhanced tourist experience.

6.2.2 Maintenance of the Tourist Experience

'*Maintenance*' emerged as a theme describing the granular elements of the tourist experience that appeared not to change due to the integration of ICTs, but mostly remained the same. With the findings predominantly pointing towards enhanced or diminished factors, only a few granular elements were found to remain unaltered. For instance, two participants reported their view that the '*authenticity'* of the experience or place does not necessarily change through ICTs. Rather, ICTs were described to have the power to explain authenticity to the tourist better. Moreover, it was noted that the '*bodily experience*' does not change for one participant, as ICTs cannot truly enhance the five senses. Similarly, the granular element of '*relaxation*' within recreation seems to be perceived as unaltered by one participant, who states that it is not clear how ICTs can facilitate a more relaxing experience. Last but not least, the '*social dimension*' was described to remain unchanged, as the tourist experience might actually not become more social, due to the lack of 'real depth' of social interactions online.

6.2.3 Diminishment of the Tourist Experience

Besides the positive enhancement or maintenance of the tourist experience, the findings provided some interesting insights into how the tourist experience is possibly diminished and co-destructed by integrating ICTs as a resource. Three granular factors appeared to be negatively affected by ICTs integration the most, which are '*recreation*' (12), the '*social dimension'* (10) and the '*physical dimension'* (8). The factor that is reported as diminished the most, is '*recreation*'. Several participants noted that by integrating ICTs, it is often impossible to relax and switch off, which in turn reduces the overall recreational aspect of the experience. Moreover, the integration of ICTs was reported to decrease the sense of escapism and true relaxation. In fact, by remaining

connected and in contact with home through social channels, tourists seem to find it difficult to refresh, renew and recreate while being away. Participants described the co-destruction of value by ICTs with regards to relaxation and recreation as following.

> *"It might be more helpful but for purely relaxation I don't need technology at all when it comes to this factor recreation. Yes exactly, well-being, escapism." (Jane)*

> *"Well I think when you don't watch out that you lose the purpose of your actually relaxing experience or this leisure kind of thing. Because in the past it was like that when you left the house you weren't connected, you were in another place and your mind could go somewhere else and could relax for the rest of the day. But NOW that you are connected I think you have to find a good balance that you don't get too busy with these things. In some cases it could even diminish relaxation if I said, if you are too connected the relaxation aspect can get lost and it's the same with refreshment and recreation." (Martha)*

The '*social dimension'* was indicated as one of the factors that is enhanced the most through ICTs. It was thus surprising to find that it was also considered as a factor that can be co-destroyed by ICTs. While ICTs can facilitate a better connection to people online, participants noted that technology often leads to a decrease of engagement and relationships in the physical tourist settings 'offline'. In fact, participants recalled several scenarios in which the use of ICTs has caused them to engage less with the own travel party and the people in the surrounding area. Beyond that, it was reported that the intensive integration of technology during travel reduces the interaction one seeks. For instance, as tourists use ICTs to independently navigate, find information and share their experiences online, they do no longer 'have to' engage with people on-site. As a consequence, reduced interaction is a commonly reported result. It concerns the engagement with waiters and waitresses in restaurants, face-to-face relations with other tourists and social interactions with locals as well as service providers. Participants therefore claimed that social interactions in the immediate surrounding suffer because of ICTs, leading to a diminished social tourist experience overall.

> *"Especially smart phone, before smart phone people were more cooperative, they were more social with each other basically." (Andrew)*

> *"Yeah it is a substitute, because as I told you, I first go through my gadgetry to find information and then if I see confusing things, or I'm not sure about it I go to locals and take their opinion as well." (Sandra)*

'Physical engagement' was identified as the third granular element that decreased through ICTs the most. It was found that technology causes a decrease of the degree of

physical exercise and physical movement in a tourism destination. For instance, participants described that they can retrieve all the information needed from their devices, and in doing so, avoid going to the tourist office to collect brochures, getting lost in the streets or wandering around the destination to find POI. Additionally, participants mentioned that they do no longer have to carry materials, books and brochures when using an all-in-one device, which reduces the physical effort in turn. Beyond the benefits caused by ICTs in reducing physical efforts, participants also highlighted that the physical place engagement is reduced. For instance, one participant describes ICTs like creating a 'layer' between the individual and the experience, which causes a perceived distance of the own physical involvement in the experience. The following two experience accounts are illustrative of the diminishment of this factor.

> *"Physical, maybe, maybe physical because I prefer to use my mobile application instead of using the real visitor information service because I think it diminishes the existence of the physical engagement with the visitor information centre." (Teresa)*

> *"You are just there. You want to have the first hand experience. You just put another layer if you use the technology if you are doing something. That's why I just use technology to get information, not to enhance. It just puts another layer on the first-hand experience." (John)*

In addition to the strongest three diminishing elements, the following factors were also perceived as diminished with ICTs in place. For instance, '*authenticity*' loses value in that ICTs create a distance from experiencing the 'authentic'. The '*bodily'* granular factor is reported as diminished in that ICTs potentially interfere with the five senses. The '*emotional experience'* can be co-destroyed when ICTs do not work properly and negative and adverse feelings arise. In a similar vein, participants point towards a diminishment of the '*satisfactory'* element due to ICTs. This occurs not because of ICTs themselves, but rather when ICTs issues cause frustration, anger and disappointment, resulting in dissatisfaction with the experience overall.

Additionally, the '*indulging'* granular element was reported as diminished due to the decreased sense of perceived fun when ICTs are used. '*Challenge*' appears to decrease in the sense that ICTs provide information and security backups. This causes a decrease in the level of risk and adventure and thus, the perceived challenge when experiencing a destination. The factor '*education*', while being mostly enhanced, could also be co-destroyed through the mass of irrelevant and unfiltered information tourists have to

'work through' when accessing information online. Finally, the '*spiritual*' factor was reported as diminished by several participants, who described ICTs as a distracting burden that limits the level of spiritual engagement. Due to the constant involvement with technology, the focus on 'the self' gets lost and self-realisation is not pursued to the full extent.

In summarising the occurred changes, it appears that ICTs have a substantial impact in transforming not only the tourist experience, but also existing conceptualisations of the tourist experience. The findings are of particular relevance by revealing that the integration of ICTs has a three-fold impact, which can be enhancing, maintaining or diminishing. Enhancement was clearly found to be the strongest change of the tourist experience, which suggests that most of the components of the tourist experience are improved or increased through ICTs. With only a very small number of participants indicating the maintenance of factors, the frequencies and comments cannot be considered as representative. Rather, their limited number of appearance can be considered as an indication that the tourist experience, in fact, does not remain the same, but is transformed through ICTs, as mentioned in the literature (Tussyadiah and Fesenmaier, 2009; Wang et al., 2012).

This suggests a transformative role of ICTs in changing the traditional tourist experience and underlines the limited applicability of existing tourist experience conceptualisations when ICTs are integrated. With respect to diminishment, it was found that eleven of the 15 factors seem to decrease to different extents. This is in line with the earlier introduced notion of value co-destruction, suggesting that the integration of specific resources might lead to the diminishment and destruction, rather than the creation, of value (Plé and Chumpitaz Cáceres, 2010). While the notion of diminishment only played a subordinate role in this study, it was nonetheless of significance to extract the diminishing aspects, in order to provide a full picture of how the tourist experience is changing through ICTs. Table 6-11 offers a summary of the types of changes, the respective granular factors affected and a short description of the specific changes that occur through ICTs. Having developed a detailed understanding of the enhancement of the granular elements, the next section turns to present the newly emerged factors that characterise the *Technology Enhanced Tourist Experience*.

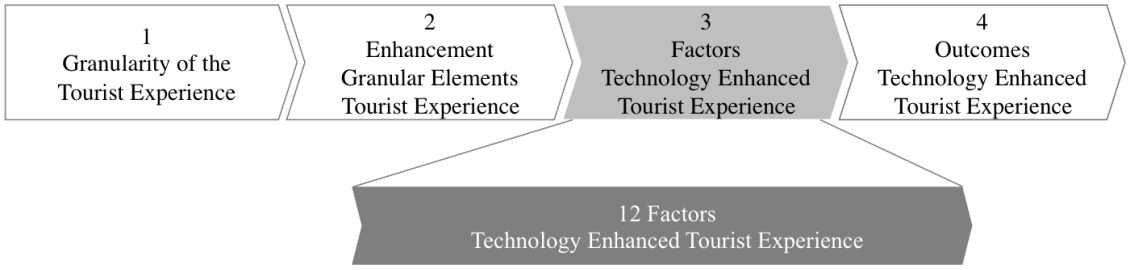
Table 6-11. Change of the Granular Elements of the Tourist Experience

Type of Change	*Granular Element*	*Description of Change through ICTs*
Enhancement	Appealing	More visually appealing and interesting due to increased material and information available
	Authenticity	More authentic, transparent through information and reviews
	Challenge	Increased sense of adventure, discovery and playfulness
	Education	More information variety available through devices
	Novelty-familiarity	More exciting new technologies to experiment and more discovery of unknown places
	Social dimension	More connection and possibilities of sharing and exchanging
Maintenance	Authenticity	Remain largely unaltered
	Bodily experience	
	Recreation	
	Social Dimension	
Diminishment	Challenge	Less adventure, risk potential due to information provision
	Physical engagement	Less physical activity due to convenience of mobile ICTs
	Recreation	Less possibility to recreate, switch off, enjoy real tourist experience
	Social dimension	Less social contact and human engagement
	Spirituality	Less spiritual engagement and finding one-self through use of ICTs

Source: Author

6.3 *Technology Enhanced Tourist Experience Factors*

At the very core of the qualitative analysis, twelve distinctive themes emerged, characterising the factors of the *Technology Enhanced Tourist Experience*. The previous section has presented a connection between the traditional tourist experience and ICTs, in revealing how the granular factors of the tourist experience change through enhancement, maintenance and diminishment. In contrast, the subsequent findings shed light on the factors that have emerged as unique characteristics that constitute the *Technology Enhanced Tourist Experience*. These findings make a novel and original contribution to the theoretical framework of the tourist experience.



The twelve factors identified represent 1) connectedness & closeness, 2) convenience & efficiency, 3) education & information, 4) independence & safety & control, 5) individualisation & personalisation, 6) locality & authenticity & territoriality, 7) novelty & playfulness & companionship, 8) serendipity & unexpectedness, 9) sociality & social engagement, 10) timelessness & memoralisation, 11) timeliness & real-time and 12) ubiquity & unlimitedness. Table 6-12 provides an overview of the factors, a succinct definition and the number of NVivo sources and references of each factor.

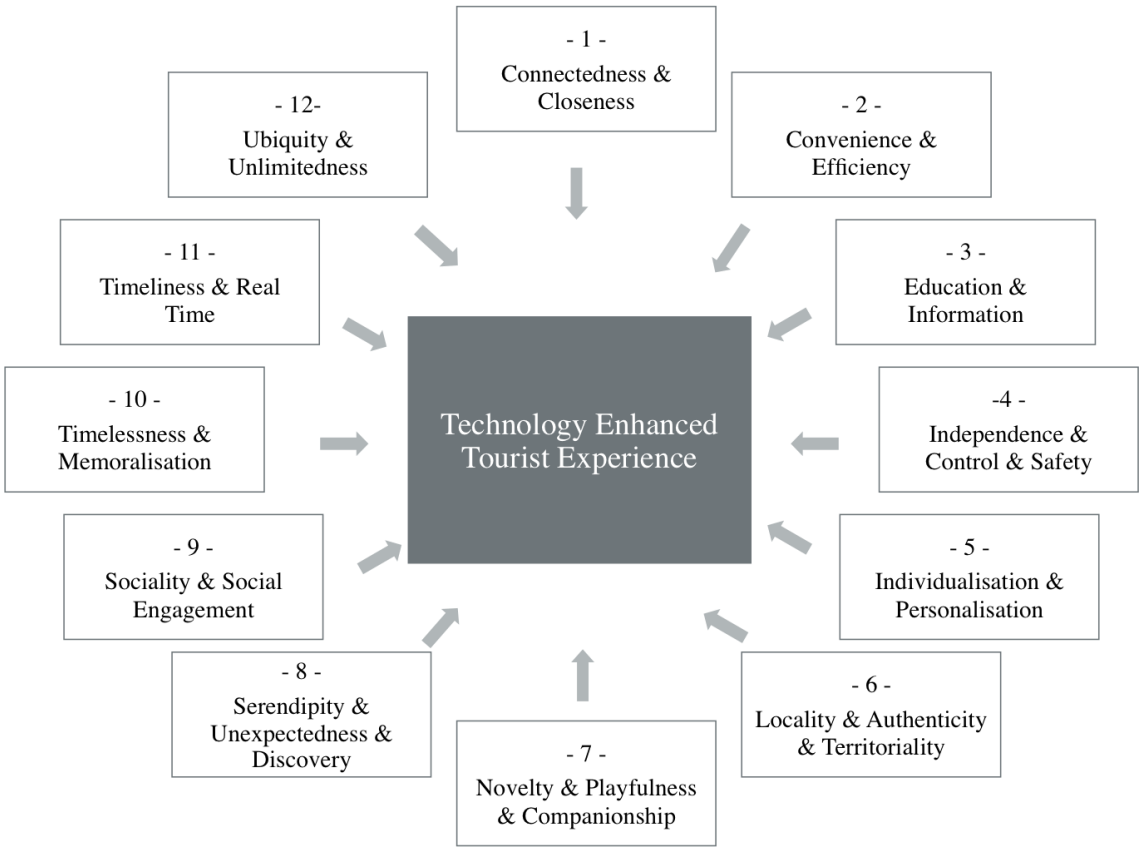
Table 6-12. Factors of the Technology Enhanced Tourist Experience

Technology Enhanced Tourist Experience Factors	***Definition***	***Nr. Sources***	***Nr. References***
1 : Connectedness & Closeness	State of being able to connect, feeling connected, feeling close to others	15	212
2 : Convenience & Efficiency	State of perceiving the experience as convenient, efficient and effective, fast, speedy or cheap	14	113
3 : Education & Information	State of being educated and gathering relevant and a variety of information	15	460
4 : Independence & Control & Safety	State of feeling independent from other resources, auto-sufficient, safe and in control of situations	15	97
5 : Individualisation & Personalisation	State of being able to adapt experience to own personal preferences and interests	10	48
6 : Locality & Authenticity & Territoriality	State of discovering the local surroundings, authenticity of places and territorial behaviour in destinations	14	84
7 : Novelty & Playfulness & Companionship	State of novelty of technologies, experiencing in a playful way and using devices as social companions	14	102
8 : Serendipity & Unexpectedness & Discovery	State of random, serendipitous discovery, exploring unexpected and unplanned places in a destination	14	123
9 : Sociality & Social Engagement	State of being socially engaged, connected, sharing and co-living experiences with others	15	137
10 : Timeliness & Real-Time	State of experiencing in real-time and having access and sharing instantaneously in the now	14	90
11 : Timelessness & Memoralisation	State of longlasting experiences that become timeless and allow to be stored, prolonged and memoralised	10	81
12 : Ubiquity & Unlimitedness	State of being constantly and ubiquitously connected, feeling unlimited in experiences	15	83
Total		**15**	**1630**

Source: Author

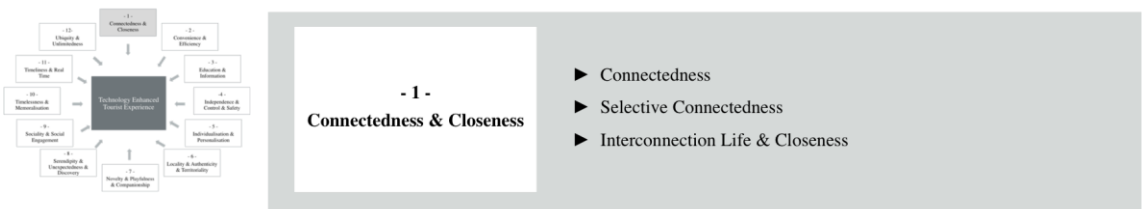
To highlight the twelve factors of the *Technology Enhanced Tourist Experience*, a factor model has been developed in Figure 6-3. It represents a graphical contribution introducing the discussion of the single factors in this section. The model provides a condensed view of the study's most profound contribution to knowledge in demonstrating the factors that render the *Technology Enhanced Tourist Experience* a distinct theoretical and practical concept.

Figure 6-3. Factors of the Technology Enhanced Tourist Experience



Source: Author

6.3.1 Connectedness & Closeness



The first factor emerged in the findings was '*connectedness & closeness*'. It represents the notions of tourists feeling connected, creating connections and feeling close to others by integrating ICTs in the tourist experience. Within traditional tourist

experience conceptualisations, social interactions and bonding with people in the surroundings are recognised as integral elements of an experience (Ek et al., 2008). Beyond such relations in the physical setting, the factor connectedness and closeness emerged as a distinct trait that is unique to the *Technology Enhanced Tourist Experience*. Its main difference is based on the evidence that through ICTs, tourists appear to create social relations, not only with people in the immediate surroundings, but especially with those who are physically distant, but virtually connected to the tourist experience. Resulting from the detailed coding process, the theme was found to consist of three sub-categories. These include 1) *connectedness*, 2) *selective connectedness* and 3) *interconnection of life and closeness*, which are outlined below.

Connectedness

Participants demonstrated the need to connect as a core part of their experiences. For instance, participants indicated that they use ICTs to connect, stay in touch, instantly communicate, share experiences and exchange mutual updates with their network. Participants described the need for connectedness to originate mainly from their personal desire to maintain a link to their daily routines and to avoid the feeling of 'being isolated' from their everyday lives. Interestingly, the reported desire for connectedness stands in sharp contrast with previous scholarly work, claiming that tourists seek to escape from home (Cohen, 1979) and want to fully immerse themselves into the experience at the destination (Pine and Gilmore, 1999; Oh et al., 2007). In fact, the majority of participants revealed that they use ICTs as a key tool to address their strong need of staying in touch and communicating with family, friends and work back home, as following narratives illustrate:

> *"While travelling, call back the family and I also still use it as normal, like answer the email and update the work. Because in the past if you don't have the smart phone, you are stuck when you were travelling (…) So like this, when I travel in another country, I work and update like normal." (Hanna)*

> *"To stay in contact with my professional and personal life. Stay in touch with work somehow, although I'm not replying to emails, but I want to know what is happening… So I usually check emails, Facebook so personal life." (Aaron)*

One of the most central characteristics of social connectedness through ICTs appeared to be the 'sense of attachment' tourists gain. Several participants emphasised that they want to feel close to home and be attached to people, by connecting and sharing their

experiences through ICTs with others. For instance, Veronica and Teresa described this need as follows:

> *"Because I'm sending my photo from Austria or Bournemouth instantly to Macao by using this social app. So this means, it is meaningful to me. Although we are in different locations, but we are still connected very CLOSE." (Veronica)*

> *"Up-to-date information and also get attached to people because it is not only gain information but I can also spread information when I'm abroad." (Teresa)*

Most importantly, connectedness was found to provide a sense of comfort for tourists. This seems to be particularly the case when social relations on-site (e.g. with the travel company, other tourists or service providers) are limited. In fact, several participants noted that they seek to connect with their own social network in order to compensate for the lack of social relations in the surrounding. This insight is of particular interest, as it indicates that through ICTs, tourists seem to have partially replaced the need for physical encounters with strangers at the destination (Arnould and Price, 1993). In many cases, they seem to seek to connect with their own familiar, albeit distant and virtual, social sphere. Rachel expressed this behavioural insight as following:

> *"If you don't and can't interact with the people around you, because you might not know them, then it is nice to have a conversation or have this kind of sense that other people are still around you, even though it is kind of virtual, it gives you kind of a security, and then you are more willing to share the experience." (Rachel)*

Selective Connectedness

In addition to the desire for connectedness, the findings point to a second characteristic, which can be described as '*selective connectedness*'. It emerged as a pattern, indicating that tourists generally integrate ICTs to connect during their experiences, but only do so selectively. For instance, participants explained that they prioritise and plan the extent to which they connect and carefully limit the time invested for connecting to the own social network. As such, it was found that some participants use ICTs not to connect throughout the entire duration of the tourist experience. Rather, they use it for specific purposes only, for instance, in need situations or to check updates every once in a while. Similarly, a number of participants also indicated that they are selective in limiting the social networks with which they seek to engage.

For instance, one participant reported to be present on Facebook, while ignoring Twitter. Another person indicated to connect with the private network, while ignoring

work place related connections. A third participant described that he selectively engages by avoiding public communication (e.g. Twitter), but is open for one-to-one engagement through private messages. What has been found as a common tenet in the narratives is that several levels of connectedness occur. It seems that tourists do not merely seek to connect, but rather make decisions about the level of connectedness, which fits their purposes, needs and desire for connection and engagement, underlining the contextual nature of experience and value creation (Vargo et al., 2008; Chandler and Vargo 2011). In this vein, several participants noted the following:

> *"I use technology just occasionally when I want to stay in touch with my family and friends but just really selective not every day the whole day but maybe once or twice a day." (Jane)*

> *"I prefer communicating with people on a personal basis… when you communicate, one to one this involves an element of sort of more close, close personal intercommunication." (Steve)*

Interconnection Life & Closeness

While the previous categories have revealed that tourists connect or selectively connect, a third interesting aspect is facilitated through ICTs, namely the interconnection with life. The analysis provided evidence that ICTs are integrated to create an interconnection between the three dimensions of the 'tourist life', 'private life' and 'work life'. Participants highlighted that only by using ICTs, it has become possible to jointly live the tourist experience and the mundane parts of life while travelling. ICTs allow them to connect to people at the destination on-site, family and friends at home and the work environment at the same time.

A distinct dimension is thus added in that the tourist experience is no longer a separate component, which is temporally and physically isolated, but becomes interconnected with everyday life. In keeping all parts of life interconnected, participants expressed a sense of 'closeness' as a central feature to describe the *Technology Enhanced Tourist Experience*. Tourists not only feel close to the people they travel with (accompanying travel party), but bridge the distance with people in the social network spread at home and around the world. Participants expressed interconnection as follows:

> *"Actually it makes me feel that I'm not homesick just to avoid this feeling. So when I open Facebook I feel like aww..." (John)*

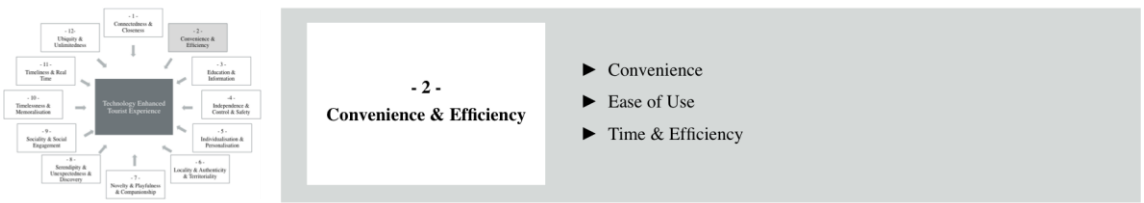
> *"I blend (…) it is at the same time always the same things." (Dan)*

"I think the whole experience gets more interactive and you include like your private life and your restaurant experience and in some cases even your work, it's all happening together." (Martha)

The findings provided evidence that *'connectedness and closeness'* represents a central aspect of the tourist experience that allows tourist to become connected and keep all parts of life interconnected by using ICTs during travel. It was interesting to note that the idea of being connected manifests itself as contrasting, as tourists seemed to desire to connect with everyday life, while in other situations, they seek to selectively connect to live the 'real experience'. Another interesting insight is that tourists have the desire to use ICTs to connect to personal distant networks as a compensation for the lack of interactions with unacquainted people in the physical destination surroundings. This adds an intriguing angle to the literature, putting the role of interpersonal relationships within the tourist experience through ICTs into a new light.

Wang (1999) argues that the development of family, intimacy and emotional bonds constitutes an integral part of an authentic experience. In light of the importance of these social intimate bonds, ICTs appear to play a key role, by facilitating social connectedness, personal bonds and closeness with friends and family through the connection online. Rather than seeking social bonds with strangers, within the *Technology Enhanced Tourist Experience*, tourists seem to integrate ICTs to stay close and maintain an attachment to home as part of a socially rich tourist experience.

6.3.2 Convenience & Efficiency



The second factor emerged was '*convenience and efficiency*', which describes high levels of convenience, ease of use and efficiency as core features of the *Technology Enhanced Tourist Experience*. Participants indicated that ICTs not only enhance tourist activities in general, but also render them easier and allow for a more effective allocation of time and monetary resources. Several participants described convenience and ease as core features of this new experience. They expressed that ICTs are 'simply available and there to help', if support is required in any need situations. For instance,

one person exemplified a recurrent scenario. A tourist finds himself lost in an unknown location without any means to find directions by asking people, finding the next tourist office or reading a map. In such a situation, ICTs can be essential to allow for an easy access to the necessary information in order to find the current location and identify the shortest or fastest route to a specific location. In these cases, participants reported that ICTs are a constant source of help. They can be conveniently used whenever and wherever needed. Participants expressed this perceived value as follows:

> *"With the Internet I think you can actually be a lot more, it is a better use of resources, obviously, and you can access the information you need QUICKER than in a book." (Paul)*

> *"Much faster and much more convenient for me, because it is in your hand…The idea of when I get lost and having to find a visitor information that kind of thing is some kind of hassle for me, so it is easier to look for information in my hand and using Google maps so that I can direct me right away through my destination." (Teresa)*

Two further distinct value propositions of integrating ICTs in the tourist experience emerged. These regard time and monetary efficiency. Participants described that by using ICTs, they can address several need situations and complete activities in a more timely and cost-saving manner, compared to other resources. These benefits become evident in commonly highlighted activities, such as finding additional information, getting faster responses by connecting to people or accessing consumer reviews to help making decisions faster. As such, participant narratives pointed out that ICTs enable 'to do things much faster'. As a result, what has changed through ICTs, are not the tourist activities themselves, but the speed and efficiency of accomplishment.

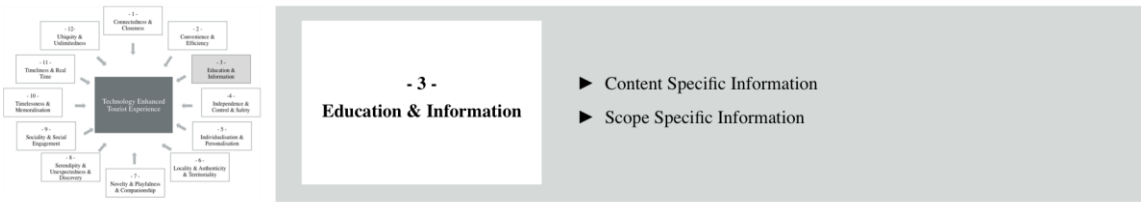
Beyond saving time, monetary benefits were highlighted as a further key feature of the *Technology Enhanced Tourist Experience*. In fact, participants recalled scenarios, in which not having the right information at the right time resulted in additional costs. Such mentioned examples include accessing destination information online instead of buying a guidebook or using augmented reality instead of purchasing a guided tour. Another participant highlighted that getting real-time information on the spot can be critical as to not miss transport connections, which could potentially lead to additional costs. Several participants exemplify monetary benefits in the quotes below.

> *"I saved time, I was sure that I was reaching the point in minutes/seconds. And I solved the problem by myself without involving someone else." (Aaron)*

"The fast and quick and easy access really makes my life easier, so I will be satisfied. And it is costless as well, the information there is lots and lots and I can access it straight away, instantly." (Veronica)

Overall, convenience and efficiency appeared to be primary determinants of how smooth and easy a tourist experience can become. The findings are in line with latest studies, such as Wang et al. (2014a), who revealed in their analysis of smartphone applications, that mobile technologies can become life-savers in making life easier and carrying out activities more efficiently and effectively. This is particularly relevant when the tourist is on the move. Mobile technologies were found to enable tourists not only to carry out activities faster, but also save time and money, which otherwise could have been necessary to gather alternative information resources. As such, it seems that tourists value a *Technology Enhanced Tourist Experience*, among other factors, due to its benefit of making travelling and the tourist life easier, getting information faster, navigating better and handling needs in a more efficient way.

6.3.3 Education & Information



The third and most dominant theme (460 narratives) characterising the *Technology Enhanced Tourist Experience* is 'education and information'. Education, intellectual and informative engagement and stimulation of the mind (Aho, 2001; Kim et al., 2011) have been portrayed as a central element of the traditional tourist experience. This is because tourists often travel to new or little known destinations (Yovcheva et al., 2013; Wang et al., 2014a). As a result, tourists have a high need for information and knowledge about the destination, not only upon arrival, but also throughout the entire duration of their stay (Tussyadiah and Fesenmaier, 2007). The findings reveal that ICTs play a substantial role in this context. ICTs are integrated to address tourists' information needs and fulfil their thirst for knowledge, and in doing so, enhance the tourist experience. The analysis of the participant interviews revealed that education and information seems to occur on two main levels. These encompass the search for 1) *content specific information* and 2) *scope specific information*.

Content Specific Information

The findings indicate that ICTs are primarily used to gather content specific information about the destination's contextual and geographical environment. Participants revealed that it is of great interest to find context and location based information about the weather, temperature, activities, restaurants, attractions and specific POI in the destination. Participants also reported a need for geographical information, which commonly appears to arise when moving through an unknown environment. In this context, the use of mobile and location based services and augmented reality applications was mentioned as a key benefit to gather relevant knowledge, not only about the general surroundings, but also about specific areas, buildings and attractions.

Moreover, participants indicated that ICTs could be used to conveniently access 'functional geographical' information about facilities, such as parking, public toilets and other relevant public services, which creates a more informed place experience. In a different vein, participants highlighted that ICTs are critical in facilitating relevant knowledge to the individual. While traditional resources, such as guidebooks provide standardised information, participants reported that ICTs enable accessing tailored information, which fits the tourist's personal interests and situational needs in a location. Following narratives exemplify the value of content-specific information.

> *"A range of information that would suit my needs." (Teresa)*

> *"It would give me the right information and in the right context." (Jane)*

> *"Knowing what the weather is like, knowing what the ski conditions are like because they know that you are there for skiing." (Steve)*

By integrating ICTs for informative and educational purposes, the majority of participants expressed to have the feeling to gather more and superior information. ICTs applications allow tourists to get insights to understand 'the best things to do' and 'the best things to experience'. This becomes possible because tourists can ask their social networks about options, retrieve consumer recommendations or access user reviews in order to find the most interesting places in a local area. In this vein, participants described ICTs as an effective tool that makes it possible to identify the best available option. Ultimately, participants suggested that the great number of information accessible through ICTs provides a superior and enhanced tourist experience.

"I don't know how to say this, because using technology you select the best place to go, you select the best where to go, the best time to go, the best means of transportation to use basically, and you select the best weather to go. (Andrew)

"If you just type pubs there is a gazillion of sites that will come up, so I sharpen my search to just ok, I want the best or the top. (Teresa)

"Tell you what would be the best restaurant within the same radius or pattern." (Steve)

Scope Specific Information

The integration of ICTs appears to allow tourists not only to get content specific information, but especially opens up information for different scopes required. Participants noted that through ICTs the content and level of information available appear 'almost unlimited'. In fact, they explained that traditional resources, such as guidebooks or brochures, generally provide only basic, generic or limited information. However, in many situations during travel, much more specific information is needed. In such cases, the use of ICTs was reported to be particularly beneficial to gather additional or deeper levels of information. Several participants expressed that ICTs have made it possible to 'dig deeper' and 'gather further knowledge' to get the 'full picture'. ICTs have become integral to the tourist experience, allowing tourists to gather the breadth or depth of information required in order to uncover very detailed knowledge, get a more comprehensive view or help in the decision-making process:

"Half of the reviews are negative and half of the reviews are positive then I go to another website and try to get a better impression about that." (Steve)

"So it is kind of judging different points and seeing kind of if the overall picture. (Rachel)

The narratives also revealed that ICTs are critical in allowing the access to trustworthy, reliable and up-to-date information. Participants expressed to integrate ICTs in their experiences as a way to gather evaluated information, consumer generated content and more reliable information. In this context, it was found that information retrieval through ICTs not only has the purpose to complement offline material. Rather, ICTs seem to be superior, in terms of providing more trustworthy and particularly, more relevant and up-to-date information. For instance, narratives suggested the value of ICTs in providing information about current events, news, occurrences, latest reviews, and up-to-date transport information. In addition to actively retrieved pull information,

push information was mentioned as a key benefit of the *Technology Enhanced Tourist Experience*. Participants described push information as a precious source of knowledge. Through such services, appealing offers and deals can be pushed to the user without the need to actively look for them. As a result, a number of participants explained that automatically receiving push information, rather than spending time to search for it, not only saves time, but also effectively enhances the information level of the tourist experience. The narratives are illustrative of the value of ICTs for such information.

> *"TripAdvisor, this is the most reliable, I think. You can ALWAYS see the comments if they like it or not. It is just based on the TRUE experience." (John)*

> *"You are continuously seeking your mobile phone to see the maps and to see the real timings of the transports, and to see the activities to do at your destination." (Andrew)*

> *"NOW the information finds me…instead of you looking for the information the information is looking for you." (Dan)*

In summary, it was found that the factor 'education and information' represents the most dominant theme of the *Technology Enhanced Tourist Experience*. While there are many potential mediators that provide tourists with information, such as guided tours, audio guides, catalogues or leaflets (Ooi, 2003), the findings indicate that through ICTs the informative and educational level of the tourist experience reaches new dimensions. In fact, the analysis of the narratives indicated that information does not only become more accessible. It also becomes available in different forms and varieties, which allows for a comprehensive and in-depth knowledge of a tourism destination and its context, offers, attractions and surroundings.

Having access to this wide array of information thus has not only functional value for addressing tourist need situations, but especially enhances the tourist's educational level within the tourist experience. The findings are in line with previous research, suggesting that experiences are enriched through technologies as a wide range of information can be integrated (Lamsfus et al., 2010; Wang et al., 2012). Beyond that, the findings have revealed that tourists access a wide variety of content and scope specific information through ICTs as an integral part of their *Technology Enhanced Tourist Experience*.

6.3.4 Independence & Safety & Control

The factor 'independence, safety and control' represents the fourth prevalent theme in the *Technology Enhanced Tourist Experience*. Previous literature has recognised the importance of peace of mind as well as physical and physiological safety in the tourist experience (Chen and Chen, 2010). In line with these aspects, the findings have shed light on how ICTs can enhance such safety needs. In addition, the findings illuminate further distinct characteristics of this factor, including the notions of feeling independent and autonomous, in control and in charge, flexible and spontaneous, and obtaining a sense of security and geographical safety.

Independence and Control

Participants described that by using ICTs, it is possible to connect and access information anywhere and at anytime. This makes them 'feel to be on top of the information they need'. In this sense, ICTs give tourists power and convey a feeling of control over the tourist experience and its embedded plans and routes. In addition, participants noted that the access to information via ICTs platforms, applications and tools, increases their sense of independence, while reducing the reliance on human beings or other traditional information resources (e.g. asking locals or the tourist office).

> *"I rather kind of stick to me, myself and solving the problem through a map online, or googling something rather than relying on other people." (Rachel)*

Flexibility and Spontaneity

Participants revealed that independence is particularly reflected in the increased flexibility and spontaneity obtained through ICTs to plan and undertake activities on the spot. For instance, tourists can independently embark on a sightseeing tour, which is merely facilitated by a mobile application or spontaneously find an ideal restaurant to go to. These are only two examples of a great number of technology-facilitated scenarios, in which tourists use ICTs to flexibly take control of their own experience.

"But it's like the same thing with these audio-fun things in museums, how long have they been for, like years. But still, I like it better than like a tour guide because a tour guide sometimes doesn't have a good day or is boring or I don't wanna listen to the story anymore. I just wanna go my own way kind of. And with all these augmented reality apps you can do that." (Laura)

"Because on the go you get information that you could not foresee before, yeah. Like for example also with these location based applications, you can get an offer, (...) where businesses send you offers while you are on the go so I think with this you can make unexpected plans because you find out about all information that you could not foresee before and you can take advantage of this. And this would not happen if you don't use technology." (Martha)

Safety and Security

In addition, participants also frequently reported that ICTs enable connections, which are essential for creating a feeling of reassurance, confidence and control. In fact, it was noted that the availability of ICTs provides tourists with a perceived sense of security and a 'safety net', particularly in case unpredicted events, problem situations or emergencies occur. Participants indicated that the mere presence of ICTs, even without the active use of such, contributes to their personal well-being in the tourism destination. This is due to the implicit assurance conveyed by ICTs to have a contingency backup in critical situations, such as when being stuck somewhere. Technologies thus provide the necessary 'safety net' that gives tourists a sense of protection, resulting from the awareness that ICTs will allow them to connect with people and solve any need situation. The following narratives underline the value of using ICTs to enhance the feeling of safety and security:

"It gives you security, because you know kind of that you can look things up, it is very easy as well, kind of for ME it is a very SAFE thing to do." (Rachel)

"Yeah, you need to know that everything is under control in a way, nor nothing is happening that you need to be aware of...It is kind of a safety net, that you are connected and you know what is happening around." (Dan)

Participants further revealed that ICTs also provide an enormous sense of geographical safety and security. Due to the possibility of geographical positioning and navigation, tourists no longer fear losing the sense of direction or getting lost. ICTs once again play a critical role in providing tourists with a sense of security and the required information to rectify any situation and get back on track. Furthermore, ICTs have been reported as critical in enabling awareness of what is happening in the immediate geographical

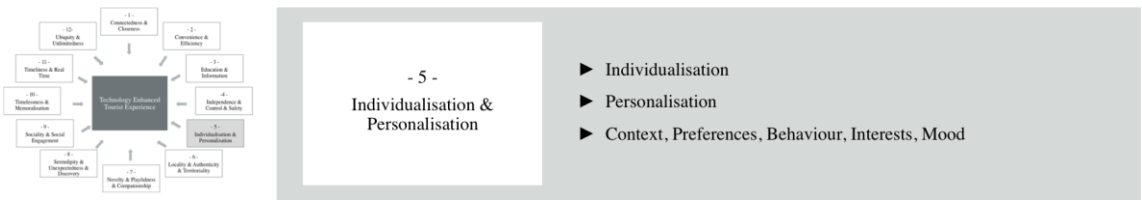
surroundings. Indeed, the possibility to connect and communicate the own geographical position to others (via online-check ins and place tags) was perceived to enhance the feeling of safety in case of major crises (natural disasters, terrorism) or smaller local accidents on-site.

Last but not least, participants mentioned that ICTs also enhance the perceived geographical safety by eliminating language barriers. With language translation applications, participants argued that a sense of safety is obtained, as signs and words in foreign languages can be simply interpreted and understood. This is particularly relevant in the context of countries visited, in which a different language is spoken or unfamiliar signs are used. One participant recalled an event in the newspaper to underline how ICTs can play a key role in enhancing one's geographical safety.

> *"If you see the thing in Boston bombing, the Chinese student who was killed in the bombing he checked-in in the Facebook in the morning with the photo of the breakfast and happy and then he disappeared and then the friends in China thought oh maybe something has happened to her, and that thing happened in Boston." (Hanna)*

In summary, the findings have provided evidence that ICTs play a major role in facilitating not only independence and control, but also allowing for safety and security within the tourist experience. ICTs offer relevant tools to eliminate insecurities and uncertainties and provide tourists with a gained sense of comfort and calmness. These insights conform with a recent study, ascribing ICTs the role of facilitating a 'peaceful mind' and a serene tourist experience (Wang et al., 2012).

6.3.5 Individualisation & Personalisation



The concept of 'individualisation and personalisation' was identified as the fifth major theme characterising the *Technology Enhanced Tourist Experience*. The findings reveal that through ICTs, personalisation can take different shapes, allowing tourists to personalise or individualise their experiences. The findings indicated that the integration

of ICTs allows for a high level of experience adaptation, based on the tourist's individual needs, preferences, interests, moods and contextual situation. Participants highlighted the capacity of using ICTs to recognise preferences and offer proactive suggestions in light of the tourist experience. Furthermore, participants explained that context and mood adaptation are important features enabled through ICTs. For instance, applications that allow customising activities, based on the situational context (weather, time and seasonality) and the current mood (tiredness, happiness and sadness) have been described to provide extra value to the tourist experience. The following narratives outline the value that ICTs play in personalising the tourist experiences.

> *"You are doing the same thing actually but through technology it's much more personalised the whole experience because in a way you can even say that the location is personalised to you because of your table that you can adjust. So yeah it enhances it because it makes it more personalised." (Martha)*

> *"If you say "oh today I'm really happy I got everything, it is such a nice weather and stuff" then I would like to get a personalised invitation for the hotel party, hotel pool party." (Sandra)*

In close line with creating an experience around tourists' individual needs, personalisation of experiences emerged as a second sub-theme. Participants noted that personalisation through ICTs is a key element of the *Technology Enhanced Tourist Experience*. For instance, ICTs platforms and applications are particularly useful for companies to offer personalisation and encourage tourists to adapt a variety of personal settings accordingly. These include the customisation of hotel rooms, bed sheets and pillows, minibars, newspapers or the customisation of information that is facilitated for the tourist. The following quotes reflect the use of ICTs for experience customisation.

> *"It was really quite cool. So to some degree that was personalising my room for me, which was great." (Paul)*

> *"Sometimes it is scary this level of personalisation, for the tourist, it is scary, but I personally find it fascinating, if they know what I prefer and they can push this kind of information to me or I have the ability to pull this information to me." (Sandra)*

In summary, the findings highlight an increasing number of ICTs enabled possibilities of individualisation, personalisation and customisation of the tourist experience. This insight corroborates with studies, confirming the centrality of personalisation of experiences (Sandström et al., 2008). Tourists seem to increasingly expect service providers to deliver more personalised experiences through the effective integration of

ICTs (Gretzel et al., 2006a). Most importantly, the findings shed light on the fact that tourists desire ICTs that not only allow them to customise experiences, based on a set of options, but *individualise* experiences based on personal moods, contexts and needs.

6.3.6 Locality & Authenticity & Territoriality

The theme 'locality, authenticity and territoriality' was identified as the sixth major component, reflecting how ICTs enhance the geographical, spatial and local dimension of the tourist experience. The support of spatio-temporal movement at destinations represents one of the main functionalities of mobile devices (Tussyadiah and Zach, 2011). In this respect, the findings shed light on the role of ICTs in enhancing the tourist's place experience by revealing three main sub-themes. These include 1) the *local discovery* of the surroundings, 2) *authenticity* of the place experience and 3) *place territoriality and de-territorialisation*.

Local Discovery

First, the findings indicate that ICTs enhance the ways in which tourists discover and experience their local surroundings. While traditional resources (e.g. guidebooks) mainly display the most important or known attractions and sites, it is through ICTs that tourists are able to discover the 'real, local tourism destination'. For instance, participants reported that they feel that technology can lead to more local insights of the visited area. Because ICTs provide access to information relevant to the current location, tourists can find inspiration to visit and discover alternative places, which other tourists might not explore. In fact, it was frequently reported that ICTs, especially mobile and LBS applications, enable to independently discover local 'insider places' and develop 'a better relationship with a place'. The following statements reflect such local discover.

"I think what has changed through this applications like Foursquare and so on is that I started to go and explore more local restaurants and local businesses because I never got the idea to go to them before until I used these things actually. Some of them are on Foursquare and it tells me like "oh there is like a Mexican bar over there, oh, I didn't even know that, maybe I should check it out". That is what has changed." (Martha)

"So if I see that there is a neighbourhood or a street that has offers and I look at it on Yelp and sometimes I would use the Augmented Reality of Wikitude to find things…I usually go." (Sandra)

Authenticity

Beyond local discovery of the physical surroundings, ICTs were also described to enhance the experience in that a more authentic connection with locals is created. For instance, one participant highlighted AirBnB as an exemplary platform, which allows tourists to connect and live with locals at the destination. Only ICTs have offered this new kind of connections. Participants underlined that, unlike before, it has become very easy to get in touch with locals, spend time with them and learn from them, and in doing so, live an authentic local tourist experience.

Several participants described that authenticity is also facilitated through social media and mobile location-based services. Participants explained that sharing pictures of authentic, little known and hidden places on social media enables others to discover them and draw inspiration for future visits. Additionally, the narratives revealed that tourists use user-content driven LBS to find authentic places at a destination. Due to the massive number of POIs available, tourists can develop a better sense of authentic places. They can find out what is 'around them' in their proximity, and by doing so, find small places, only locals might know. Participants recalled past experiences of how ICTs enabled them to connect with locals to generate local and authentic experiences:

"Being there with local people, for me the idea of travelling is just to taste local experience, so you can some kind enrich your experience when you are abroad, so you have the opportunity to spend the night with a bunch of locals in a local pub and sharing travel stories and things. It is really fun." (Teresa)

"I feel like I would learn something, so how people live there and you have more interaction, with the people and like if you stay in a hotel you don't feel like you are a real local but with that service you feel like good, cool and even you know the stories." (Hanna)

Territoriality and De-Territorialisation

In addition to local discovery and authenticity, the findings shed light on the notion of 'territoriality' as a further distinct sub-theme. In contrast to conventional movement in, and discovery of, a destination, narratives highlighted that mobile technologies change the way tourism destinations are explored. ICTs add a new dimension of territorial behaviour. Participants reported geo-tagging as a common practice of their technology enhanced experiences to link the geographical location with online visual content. The findings indicate that geo-tagging and location checking-in represent important practices. Participants noted that they use such applications to demonstrate evidence of their geographical movement and 'territorial achievements', indicating noteworthy and outstanding check-ins.

Participants also described such technology-facilitated activities as a way of self-actualisation, by collecting virtual territorial badges for their tourist experiences. An additional aspect of territoriality seems to be constituted by the emerging trend of social and augmented gaming. In fact, a small number of participants noted to use location-based services as a means of technology-facilitated social play that allows the discovery of a specific territory in new ways. This territorial behaviour is exclusive to the *Technology Enhanced Tourist Experience*, in that it allows to be immersed in the physical surrounding, while playing and co-creating the experience online at the same time. Among several participants, Aaron and Martha explained their territorial experience with following narratives:

> *"I was competing with some friend for the badges… I was amazed by the fact that I can pop into a new location and I can be the mayor of locations, it was kind of a game, but I think that if Foursquare is giving me real added value." (Aaron)*

> *"It transforms my online experience into a real experience by receiving for example a free tea with my meal." (Martha)*

In sharp contrast to territoriality, the findings also reveal a further interesting notion that has emerged, which can be described as 'de-territorialisation'. As tourists connect with their devices to their online networks, participants stated to 'switch to distant places'. This connection seems to mentally move them to a virtual 'territory', while disconnecting them from the physical surroundings. For instance, participants highlighted that connecting and interacting with people online causes something that

can be described as a 'temporal detachment' from the surrounding experience. Teresa recalled a past experience, reflecting such behaviour:

> *"I think that happens plenty of times and you sit down in a café and you enjoy your meal and you have to wait for certain minutes until the food arrives, and when there is nothing on the table and we are exhausted to talk to one another then we just engage with our virtual friends." (Teresa)*

In summary, it appeared that ICTs enable and enhance locality, authenticity and territoriality (and de-territorialisation). On a general level, the findings conform with the existing literature in that mobile technologies are powerful tools to support tourists' geographical movements, finding specific locations and facilitating navigation at the destination level (Tussyadiah and Zach, 2011). Beyond that, the findings add knowledge, by revealing the transforming role of ICTs in creating more local, authentic and territorial tourist experiences. With ICTs at the tourist's disposal, the findings also provide evidence that tourists seem to increasingly engage with previously not connected locals and uncover real place authenticity, by exploring alternative routes, unknown local highlights and hidden sites. In doing so, tourists do not merely rely on commercial or tourist-designed offers, but go off the beaten track instead (Li, 2000).

These findings lead to suggest that the level of authenticity is enhanced, as tourists create authentic, non-ordinary experiences (MacCannell, 1973; Wang, 1999; Uriely, 2005) through ICTs for themselves. Beyond authentic discovery, it seemed that new forms of behaviour emerge, which have only become possible through ICTs and are distinct new features of the *Technology Enhanced Tourist Experience*. Integrating ICTs to check-in and demonstrating evidence of the own movement and conquering places adds a level of gaming and personal achievement to the experience. Moreover, ICTs allow tourists to temporarily escape from the physical surroundings and immerse themselves in the online world, creating a shift between the physical and virtual dimensions of the tourist experience.

6.3.7 Novelty & Playfulness & Companionship

'Novelty, playfulness and companionship' has emerged as the seventh core theme of the *Technology Enhanced Tourist Experience*, which evolves around the idea of enhancing the tourist experience with ICTs in a playful and fun way. The elements of novelty, fun, excitement and entertainment have been recognised as integral parts of the tourist experience in the literature (Ritchie and Hudson, 2009; Ryan, 2010). The findings of this section highlight how ICTs contribute to this process, by allowing for experimentation with novel ICTs, using ICTs in gaming as well as implementing ICTs as an eBuddy that accompanies the tourist throughout the experience.

Novelty, Experimentation, Fun and Playfulness

The findings reveal that ICTs foster a sense of curiosity and novelty in that tourists try new types of technologies to create new types of experiences. In particular, participants highlighted that they seek to experiment with new ICTs they have never tried before, such as augmented reality applications, Google Glasses or Foursquare. In using such technologies for the first time, a new and existing dimension to the tourist experience is added. Additionally, participants revealed fun and playfulness as essential parts of a technology enhanced experience, as they use ICTs for fun activities during the travel. This can be done in various forms, for instance, by sharing funny tourist moments with the social network, engaging in social gaming or participating in social competitions for place badges through Foursquare. In particular, two participants mentioned the important role of playing technology-facilitated games while travelling. The value of novelty, experimentation and playful gaming is reflected in the following narratives:

> *"Right now I find it really exciting because it is new and it is interesting and so on." (Martha)*

> *"Novelty will probably be a BIG one for me, something that is, something that is familiar and pleasurable, in terms of technology when you have especially like a technology and it is an innovative kind of technology and you could try it out and it would be like "WOW" that would be good." (Sam)*

"I for example would play a game of course it would be fun but it also depends on the screen and how involved other people are what I am playing or am I a single player or is my partner or my family who is travelling with me playing it at the same time." (Jane)

"Of course it is entertaining, especially like games, there are some games it could be entertaining. Fantastic, yes." (Veronica)

Companionship eBuddy

In line with novelty and playfulness, another interesting aspect of the tourist experience identified was 'companionship'. Social companionship is characterised by using technological devices in a way that they are not merely physical artefacts (Gretzel and Jamal, 2009), but become actual virtual companions. This view is in line with a recent study, coining the term 'travel buddies' to describe the role of ICTs in travel (Tussyadiah, 2013). In fact, the findings demonstrate that ICTs are not perceived as merely functional devices, but as tools with which tourists engage and interact. Participants expressed that ICTs, due to their vast functionalities, have become a personal travel 'recommender', 'travel assistance' and 'companion', which can be used as the first means of support, whenever needed.

The common tenet in this theme is that 'technology knows everything, everything about you and your needs'. In this vein, participants noted that ICTs could serve as valuable travel assistants, which guide the way, give directions, provide push information and proactive suggestions. Essentially, ICTs are perceived as a trustworthy and reliable travel companion that can guide the tourist and recommend 'what to do'. The findings also suggest that ICTs are perceived not only as travel helpers, but also as 'social travel companions' that accompany the tourist. This was particularly noted in times of downtime, emptiness or loneliness. In such cases, ICTs come into play to function as a companion to which tourists can turn to. For instance, participants argued that sometimes it is not possible to interact with other people, in which cases ICTs provide a tool that can compensate the lack of engagement and fill the social void. The role of technology as a companion and buddy has been portrayed as especially relevant when people travel alone. Participants explained this theme with the following statements:

"When I arrive there, and the technology tells me where to go, leading me through this." (Steve)

"It is basically giving you the information, it is your local friend." (Dan)

"If I miss one, that I know that this app is there to tell me 'there is another one coming, don't worry' and then I don't have to look at the timetable." (Sam)

"It's just that it could be my company to kill the time. Not for enhancing, no just to if you have nothing to do because you are alone." (John)

In summary, it appeared that due to the wide range of functionalities and novel characteristics of ICTs, the tourist experience becomes novel, playful and fun. The findings have also underlined that technology has become a constant element in travel, which, due to its reliability and convenience, can be used to assist and facilitate tourist needs situations whenever needed. In being able to fulfil numerous purposes, ICTs have evolved into a valuable, functional and social companion that helps and accompanies the tourist throughout the experience at all times.

6.3.8 Serendipity & Unexpectedness & Discovery

'Serendipity, unexpectedness and discovery' was identified as the eight major theme of the *Technology Enhanced Tourist Experience*. Previous studies have recognised serendipitous moments, elements of surprise (Chen and Chen, 2010; Tung and Ritchie, 2011) and unexpected happenings (Kim et al., 2011) as integral components of a memorable tourist experience. The findings of this study extend the existing knowledge by providing insights into how ICTs can enhance the possibilities of serendipitous discovery and facilitate random, surprising and unexpected encounters, and the identification of locations. The findings point towards the key role of mobile technologies in leading tourists to several discoveries within the context of a destination, which tourists have neither been aware of nor have planned for. This theme is divided into three main sub-sections, including 1) *serendipity and discovery*, 2) *unexpectedness* and 3) *surprises and rewards*.

Serendipity and Discovery

Serendipity refers to random, spontaneous and unexpected discoveries as part of the tourist experience. In particular, participant narratives have provided evidence that ICTs facilitate geographical discovery to uncover new and unfamiliar locations in the tourism destination. For instance, participants stated that 'if you do not know that a place exists, you cannot search for it'. However, ICTs are key in enabling one to 'know what you do not know'. In fact, several participants mentioned that ICTs help not only to find places, which they know about, but especially help to discover places, which they had no prior knowledge or awareness about. For instance, one participant reported to use LBS to walk around a destination and randomly find new places and unexpected things. Serendipity is not only facilitated by mobile applications, but also seems to occur when experiences are shared and the social network provides unexpected suggestions. A number of participants confirmed that the network frequently gives suggestions to go to places one has not been before, leading to unexpected places to be discovered. Several participants recalled serendipitous moments in the tourist experience through ICTs.

> *"People see it as an opportunity to find out something which they didn't know before if the technology was not in place." (Steve)*

> *"Maybe something that is interesting there and I didn't know that and I didn't get it from the map. Maybe for example if there is a drum shop, like I like music, and I can't get that from the map." (Sam)*

> *"Information because maybe this place I don't even consider to try that food during my planning, and because my friend told me that I have to try this food." (Teresa)*

> *"It just all came together and I just love this serendipity about it. You know pure chance. That's spontaneity combined with the serendipity is fantastic, I love that." (Paul)*

Unexpectedness

In a similar vein to serendipity, the idea of unexpectedness emerged, referring to unplanned opportunities and discovery facilitated by the support of ICTs in a destination. In this context, participants highlighted the value of unexpected social engagement and encounters. For instance, participants narrated that social media posts and check-ins sometimes trigger the encounter of people from the own network. Only by sharing experiences in real-time, people become aware of the current locations and

can decide to spontaneously meet in turn. The following narrative by Martha explains how ICTs could have facilitated such an unexpected encounter:

> *"I think I value most these unexpected opportunities and to be connected at all the time and everywhere, that is what I value most…It would have been something unexpected because when I went to the restaurant I went with my partner and I'm gonna sit with him and I talk about our topics, but if she came in and has a chat with us for a while, maybe she would have said something funny or so, so I think the whole experience would be, also more social, because you would get in contact with a new person that you didn't expect before." (Martha)*

Surprises and Rewards

The final feature of serendipity regards surprises and rewards tourists can gather in their experiences. Participants exemplified the situation of online check-ins into physical places, which triggered surprises and rewards from the company in turn. Several individuals emphasised that, while they do not expect such gifts, surprises have become a possible key benefit of a technology enhanced experience. This is because online and virtual activities (e.g. check-ins) are translated into the physical world, in which tangible rewards enhance the 'real experience'. Participants highlighted the following:

> *"Review the company, maybe get a reward from it." (Martha)*

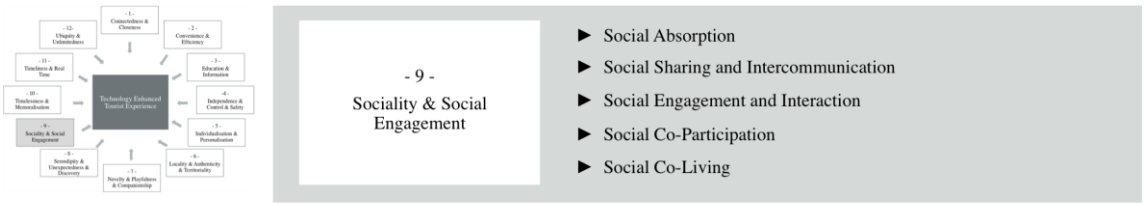
> *"I go to a restaurant and the menu has a QR code with an offer and they say 'if you scan the QR code you get 20% off, we will give you a free starter for example', for me this is enhancing it." (Sandra)*

This theme demonstrated serendipitous encounters, the element of unexpectedness and surprise as a major experience factor. It was of particular interest to understand how place discovery has changed and has become more serendipitous. Not only can tourists discover new things that people suggested, but they can also discover things that they did not know existed before. This emphasises the importance of serendipity and serendipitous moments in tourist experiences, which have only been scarcely touched upon in the literature (Cary, 2004). Every experience includes a certain level of risk, an element of the unforeseen, surprise and unexpected events (Selstad, 2007).

While ICTs are mostly integrated to avoid the unexpected, be in control and allow for trips to be rigorously planned (see theme independence & safety & control in section 6.3.4), other experiences might be of a relatively spontaneous nature. This is in line with a recent study, which suggests that the use of smartphones encourages tourists to

become more creative and spontaneous in their experiences (Wang et al., 2012). Indeed, the findings within this theme lead to suggest that ICTs facilitate the idea of 'un-planning' and enable more serendipitous and almost random discovery within tourism destinations, opening the possibility of unexpected activities and opportunities.

6.3.9 Sociality & Social Engagement



The theme 'sociality and social engagement' captures the socially immersive, connecting and bonding aspects of the *Technology Enhanced Tourist Experience*. Scholarship has recognised the importance of social interactions with the travel party, consumers, locals and stakeholders within the tourist experience (Carmichael, 2005; Ek et al., 2008). The findings add knowledge on how tourists socially engage with ICTs in place. Through the participants' narratives it was found that tourists not only encounter one type of engagement, but rather participate in several nuances of social engagement. These levels were conceptualised and structured into 1) *social absorption*, 2) *social sharing and intercommunication*, 3) *social engagement and interaction*, 4) *social co-participation* and 5) *social co-living*.

Social Absorption

The first sub-theme of the findings illuminated represents the notion of engaging and absorbing content online. For instance, participants noted that this includes checking friends' profiles to look for travel advice, keep updated with the social network, sharing the current location via check-ins and staying in touch with the home environment. Primarily this activity seems to serve the purpose to stay updated with the personal network and keep the network updated about the own tourist experience. Participants described this type of social engagement in their experiences as follows:

> *"I just want to sometimes know, that people know where I am. So in case they want to talk to me they can, they know where I am." (Martha)*

"Because I want to know them where I am, because that information is like my parent, I don't need to call them to tell, that I'm at this place, I don't need to tell my friends, in which country I am now." (Hanna)

Social Sharing and Intercommunication

The next level of social engagement was identified as social sharing and intercommunication. In intensifying the mere absorption of content, participants seemed to engage in sharing of, and communicating about, experiences. This was found to involve a two-way stream of exchange, including one person uploading and sharing content, while another person is triggered to respond and communicate. For instance, this communication seems to occur publicly by posting on social media platforms or through a two-fold communication with the private social network, such as sharing and liking pictures, responding with brief comments or personal messages. Participants emphasised that such an engagement is mostly brief and light, as short conversations are exchanged, while no deeper dialogues or long communications occur at this point. Referring to such a form of engagement, participants described it as following:

"I can post pictures and update tweets or something and that feels nice when you share image with people it's like a two-way activity." (Teresa)

"I prefer to send a personal message rather than post something on the page that other people can see…I believe when you communicate, one to one this involves an element of sort of more close." (Steve)

"When I post pictures of things when I share things about my travel experience the best comment I have "very nice" but we are not creating a meaning." (Aaron)

Social Engagement and Interaction

The third dimension identified is 'social engagement and interaction'. It seems to be mainly characterised by more intense levels of engagement, prolonged dialogues and deeper forms of communication through ICTs. For instance, participants described that this includes the engagement with tourism companies, a small chitchat with people of the own social network or a dialogue that is established as an effect of sharing content online. For instance, a couple of participants reported past occurrences, in which sharing pictures online has led to meaningful discussions, suggestions and ideas on experiences. In several instances, this has added co-created value and meaning to the actual physical tourist experience. Sam and Sandra recalled such examples relating to this level of engagement below.

"I can share it a little bit and then we just talk about it to say, my friend "oh I can't believe you had that" "yes" and "I have been to your house and it was nothing like that" or something like that". (Sam)

"I usually communicate to the people so if you want you can find me on social media whatever to communicate with me. And they know that if they want to communicate with me they can find me there and I will reply to them." (Sandra)

Social Co-Participation

In increasing the intensity of engagement, the findings indicate that ICTs allow tourists not only to communicate and interact, but also to develop deeper and more intense forms of engagement. This happens when tourists use ICTs in a way that allows people to become part of, and co-participate in, the experience virtually. One participant described this form of engagement in the sense of 'others being there with you'. By sharing experiences with others through ICTs, experiences can be transformed into a participatory activity, in which people take part at the very moment of its occurrence. For instance, participants mentioned that co-participation occurs when people are connected and become part of co-creating the decision-making, dynamic planning and exchanging information and travel advice. While in the past, experiences were primarily shared in the post-travel stage (Gretzel et al., 2007), experiences are now shared while they are happening, allowing for people to participate and become virtual co-creators of the experience through technology. The following narratives are illustrative of how people co-participate in a tourist's experience:

"When I'm in a place and there is an image and someone contacts me "oh ive been there before" usually they ask me questions, "oh have you tasted the ice cream here and there" and it also gives you ideas about places." (Teresa)

"I just want to make sure they find those really nice places as well, that they might have not gone to because that might have not been their choice of things to do." (Rachel)

Social Co-Living

In taking social co-participation one step further, the 'social co-living' theme emerged. It indicates the idea of people co-living the tourist experience virtually. For instance, participants explained that when experiences are shared online, they can become real for connected people, to an extent that people are not only participating, but are essentially living the travel moment through the tourist's eyes. Participants noted that technology has facilitated new ways in which people can become part of an experience. Critical to

this process is connection and sharing in real-time. It is the sensation of 'the now' that allows people to co-live the experience for themselves at the moment it happens. When sharing experiences, the tourist can invite people to communicate, interact, participate and co-construct experiences, and lend people the 'virtual eyes' to live the experience from the distance. Participants expressed this form of intensive engagement as follows:

> *"My friends would really like it if I'm somewhere on holiday and put a pictures on Facebook so that they kind of see 'oh she is doing this now'." (Laura)*

> *"Others just travel through my eyes…It is like going to the movies and watch a film about Bollywood and you feel that you are in India." (Dan)*

> *"Just the feeling to have the other people participating in your journey even though they are not there but to share your experience with them because you can't share it with no one." (Jane)*

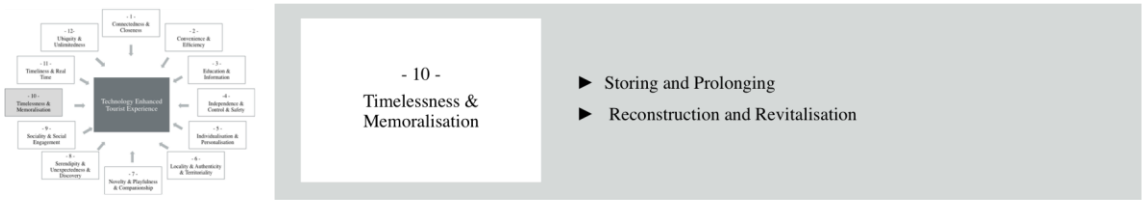
> *"I want to share the best highlight of my travel to the people, to my friends and family, because they are the highlight, the best, so my friends and family in different places, by using technology it will be straight-away put over there." (Veronica)*

The 'sociality and social engagement' factor has illuminated critical insights of how the social dimensions of the tourist experience are enabled and enhanced through ICTs. The findings appear to reinforce the significance of socially intense experiences (Arnould and Price, 1993; Ek et al., 2008). Moreover, they confirm existing studies, suggesting the central role of ICTs for sharing experiences (Brown and Chalmer, 2003) and exchanging content, information and experiences with others (Tussyadiah and Fesenmaier, 2009). The findings also go beyond existing work and contribute by revealing which forms of social engagement specifically occur through ICTs. In this vein, the central conclusion was that ICTs enable a wide range of possible social connection, communication and engagement practices, which can range from light forms of social absorption, intercommunication to deeper and more immersive forms of social co-participation and social co-living of the tourist experience.

By illuminating underlying social engagement themes, the findings also move beyond mere description of social tasks (e.g. comment, share, upload pictures, press like buttons), and represent thematically meaningful types of engagement. In examining the notion of authenticity in the tourist experience, Wang (1999) suggested the importance of social bonding, nurturing family ties and developing authentic togetherness. In line with these aspects, the social engagement levels through ICTs could be interpreted as an

extended and technology-facilitated way of developing bonding in the tourist experience, not only through physical encounters, but above all, through online social engagement.

6.3.10 Timelessness & Memoralisation



The tenth theme described as 'timelessness and memoralisation' reflects the notion of extension and temporal 'prolongment' of the tourist experience through ICTs. The features of ICTs tools allow for the unique benefit to collect and store content associated with the tourist experience for multifarious purposes. The analysis reveals that ICTs play a key role in enabling personal documentation, external memory storage and keeping virtual notes and tracks. One of the key benefits is that ICTs allow saving tourist moments, recording the tourist experience and ultimately, enabling its retrieval whenever needed in the future. The findings reveal two sub-themes, including 1) *storing and prolonging* and 2) *reconstruction and revitalisation*.

Storing and Prolonging

First, the findings shed light on a distinct activity of the *Technology Enhanced Tourist Experience*, which can be defined as 'storing'. Through the use of ICTs, participants seemed not only to share their experiences, but also appear to create a visual and virtual storage of them. Participants indicated to use technologies particularly to store their personal travel 'achievements'. These include achievements on a personal level, such as personal trip records on a map, travel frequencies, timelines as well as geographical movements through check-ins and posts. By storing the tourist experience through theses virtual traces of evidence (e.g. videos and photos), participants not only save the experience, but also indicate the desire to 'extend the tourist experience'. In fact, participants argued that using ICTs allows 'documenting the experience', which in turn creates a long-lasting memory, beyond the immediate tourist moment. It thus appears that ICTs change the tourist experience, as it no longer is a simple memory of the past,

but instead can be vividly accessed, retrieved and reconstructed at any point in time. Participants expressed the storing and prolonging of their experiences as follows:

> *"Like re-experience what I did, so it is like having an external memory or having an enhanced memory of what I did and sometimes it is strange because when you check your picture it is like you only remember the moment of the picture after a while." (Aaron)*

> *"Just that I kind of, that it is not just in that MOMENT but you can keep it with you and you will have that for a long time." (Rachel)*

> *"Yeah it is really nice, so when you are home, you sleep for a day and the next day you post all your pictures on Facebook and you are walking down memory lane and you can see, oh I've been here because I stayed with the other two girls that were travelling around with me so we can share some stories, like recalling some of the stories that happened before when we were here and there." (Teresa)*

Reconstruction and Revitalisation

Participants also noted to use ICTs for re-enacting, reconstructing and revitalising their memories of past experiences. Reconstruction through ICTs has become possible, as tourists can access saved evidence to 'walk down memory lane'. This occurs, for instance, by looking at pictures online, shared comments and check-ins or blog stories. Participants described that ICTs enable a sense of nostalgia and open opportunities for recollection and re-construction of past experiences. Tourist experiences stored online can be accessed and easily re-enacted for future planning and trips. In this vein, one participant noted that 'if you have missed out on one activity, you can look online and fill the gaps or update the experience with new information next time'. ICTs are thus key tools not only to store the experience, but also to reconstruct, enhance and supplement it with new and updated information online, which is reflected below:

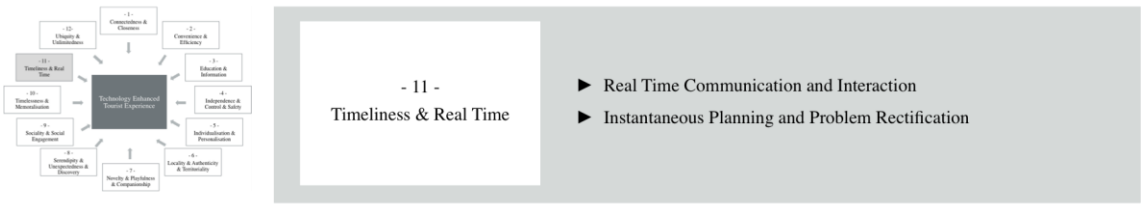
> *"That has something I would say for myself nostalgic that I can go and come back and when they do this or send these videos quite frequently and I keep it for nostalgia." (Sam)*

> *"And recording evidence and documenting destinations so I can go next time." (Dan)*

In summary, it appears that timelessness and memoralisation is a dimension of critical importance to store, extend, relive and reconstruct tourist experiences. Memories and recollections are utterly subjective, determined by time and the progress of personal reflection as well as external information and representation (Ek et al., 2008). With this

premise in mind, the findings have shown the key role of ICTs in helping to document the tourist experience, extend and memorialise it in unique ways. This also corroborates with recent studies, underlining the importance of shared content for the own personal recollection of experiences post-travel (Tussyadiah and Fesenmaier, 2009). These findings lead to suggest that tourist experiences have become 'tangible' and more 'vivid' in a sense, as they are now captured through electronic evidence, maps, traces and check-ins. This collected evidence seems to allow tourists to re-experience and restore memories after a long time. One of the most intriguing aspects is that these saved traces can be used to restore memories for future travel (Tung and Ritchie, 2011).

6.3.11 Timeliness & Real-Time



In line with the previous factor 'timelessness and memoralisation', it is evident that the component time is a main factor determining the nature of the *Technology Enhanced Tourist Experience*. In contrast to the long-lasting storing of experiences, the factor 'timeliness and real-time' emerged as a theme, describing the dynamic nature of this new tourist experience. Timeliness and real-time refer to the notion that ICTs enable instantaneousness and acting in the 'now', by facilitating real-time communication, interaction, information, sharing, decision-making, planning and problem rectification. Two sub-themes were identified, including 1) *real-time communication* and 2) *instantaneous planning and problem rectification*.

Real-Time Communication

First, the findings indicate that ICTs enable instantaneous communication and interaction. Due to the ubiquitous connection of ICTs, real-time has become an essential component of the tourist experience. In fact, participants emphasised real-time communication as adding distinctive value to the tourist experience. Unlike static or delayed means of communication, real-time connection allows tourists to share their experience with others who might co-create the experience while it occurs. Participants highlighted to use ICTs to communicate, exchange ideas and information and to involve

others in the tourist experience. Beyond communicating with the own private network, one participant also pointed to the use of Twitter to understand what is going on in a destination in real-time. Participants provided the following experience narratives:

> *"People and life is just so much faster, people are they are not planning in long-term anymore, they are just RIGHT NOW, in that moment these things need to happen and if you don't get the information back then your plans change. That happens a lot." (Martha)*

> *"Being up-to-date, even during my travel and in Amsterdam I also used Twitter to see what is around and because Amsterdam is really hip, and then I just put hash-tag Amsterdam and I could see plenty of events going on." (Teresa)*

Instantaneous Planning and Problem Rectification

Instantaneousness, a further key feature of this theme, primarily refers to the value of instant information access and dynamic information retrieval for planning through ICTs on the spot. Participants described that they increasingly desire to use ICTs to dynamically obtain information in need situations and, particularly, when up-to-date information or real-time transport information is required. In this vein, real-time information was described as pivotal for dynamic planning and decision-making. For instance, participants emphasised that ICTs allow them to retrieve information to make quick decisions and by doing so, enhance the decision-making process on-site.

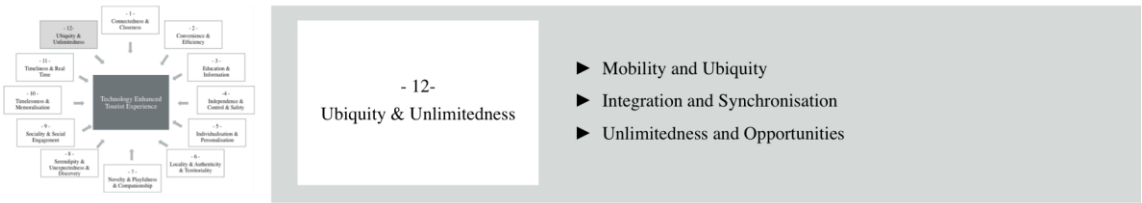
Traditional resources, such as guidebooks, might only contain information valid at the time of printing. Differently, the connection to online services gives the tourist up-to-date information as well as information about offers and deals from companies and events happening while at the destination. As a result, participants noted that by using ICTs, they no longer plan activities entirely in advance, but strongly rely on their devices and applications to make plans on the spot. Participants also reported the value of accessing specific apps and platforms in need situation, which allow getting quick translation help and rectifying problems. For instance, when services go wrong, several participants stated that ICTs allow them to complain via Facebook or Twitter, which might lead to an instant company response and recovery online or in the physical world. The following statements express the distinct benefits of ICTs for dynamic real-time planning and decision-making.

> *"I think you can do much more short-term planning and unexpected planning." (Martha)*

> *"I think it is the real-time information that you get, and sometimes it is something that you cannot get from a book because you have things that are changing SO MUCH. How can I put this? It is not only real-time, real-time plays a HUGE role." (Sandra)*

In summary, real-time was reported as one of the emerging and increasingly most relevant features of a *Technology Enhanced Tourist Experience*. The findings show that timely information, communication and sharing are key determinants of an enhanced experience. Due to the nature of tourism and the movement through space, tourists often encounter situations, in which timely information is critical. Tourists need information straight away to get current information about schedules, delays or events (Tussyadiah and Fesenmaier, 2007; Wang et al., 2012). Additionally, while sharing represents an important part of the tourist experience, it increases in value if it can be done in the very moment of its occurrence. As participants underlined, the value of some moments is lost, if shared later. Only by using ICTs, tourists can connect, share and co-create experiences with others in real-time. This is in line with recent work, underpinning the value of real-time sharing for tourists to gather comments from friends directly while the experience is happening (Rust and Oliver, 2000; Munar and Jacobsen, 2014).

6.3.12 Ubiquity & Unlimitedness



The final factor of the *Technology Enhanced Tourist Experience* emerged is 'ubiquity and unlimitedness', which essentially characterises the ubiquitous connection, mobility, synchronisation and unlimited nature of the tourist experience. The findings reveal three sub-themes, including 1) *mobility and ubiquity,* 2) *integration and synchronisation* and 3) *unlimitedness and opportunities*.

Mobility and Ubiquity

Due to the increasing prevalence of mobile technologies (Gretzel and Jamal, 2009), ubiquity and ubiquitous connectedness, networking and sharing have become key characteristics of experiences when ICTs come into play. The findings indicate that the

mobility of ICTs has added a key capacity to integrating ICTs as a valuable resource into experiences. Participants highlighted that because of the benefits of ubiquitous ICTs, information can be accessed anywhere and at anytime, on the spot wherever it is needed. The ubiquitous availability of information is what renders the *Technology Enhanced Tourist Experience* distinct from traditional experiences. Participants exemplified that without ICTs, they had to 'go and find the information' by physically looking for an office or information point, before being able to obtain the information needed. With mobile ICTs in contrast, ubiquitous information retrieval, decision-making and planning can be easily undertaken on the spot, as mentioned by participants.

> *"We want to stay in a café longer and so we can check the later train or bus services, compared to us going to the train station first and checking the schedule." (Teresa)*

> *"Because you get more information everywhere and personal information from people and reviews. I think that is very interesting." (Laura)*

> *"Flexibility, that you easily access things whenever you want and wherever you want. Accessibility. Yeah." (Jane)*

Integration and Synchronisation

Beyond ubiquity, participants noted how the integration and synchronisation of information between devices enhances their experience, by making information become available everywhere during the travel process. Participants suggested that the accessibility of information through all-in-one-devices represents a main benefit compared to traditional information resources. Rather than using different resources for different experience purposes (needs), ICTs enhance the experience, by providing access to all information needed. It was also found that participants perceive ICTs as critical to synchronise information on different life parts (travel, home and work) on one device. In line with 'connectedness and closeness', synchronisation is thus central to interconnect travel and everyday life to have an 'integrated tourist experience'. One participant pointed to the value of using one device to enhance the tourist experience:

> *"But NOW you have only one device in your hands that can tell you each and everything whatever you want, so this is something what has changed in the world." (Andrew)*

Unlimitedness and Opportunities

Unlimitedness represents a further sub-theme, characterising the unlimited possibilities that ICTs allow to arise. Participants noted to gain 'unlimited knowledge' through ICTs. As indicated in the factor 'education and information', a wide range of information can be explored to any desired depth and breadth. The identified expression 'technology knows it all' refers to the perceived usefulness of ICTs platforms and applications to provide seemingly unlimited knowledge. Beyond information retrieval, participants also described that ICTs allow them to enjoy an unlimited amount of choices and options.

While traditionally tourists may have missed out on specific events or sites, this is no longer the case with ICTs in place. Instead of 'missing out', tourists seem to have access to information at their hands and can actively decide, whether to take up offers, take advantage of deals or join events. The findings seem to be consistent with the recently recognised phenomenon of 'Fear of Missing Out', frequently referred to as 'FoMO'. It describes the urge to stay connected in order to overcome the anxiety that others might have pleasurable experiences that one misses (Przybylski et al., 2013). The following statements underline this concept:

> *"To make you not to miss things, to engage other things and it is, it will improve, it will facilitate and it will make you get closer to the things that you really like, FASTER." (Dan)*

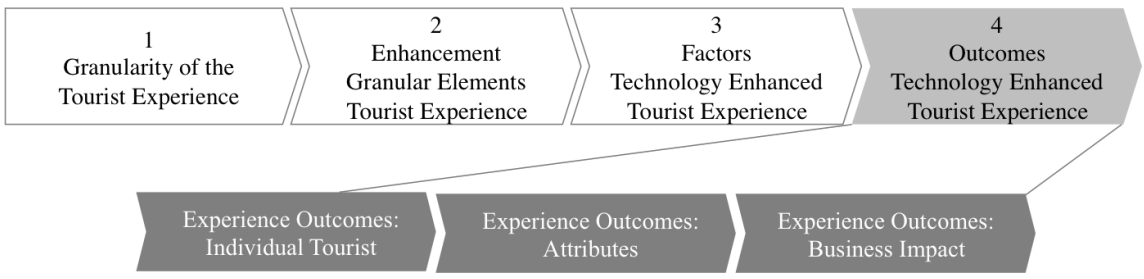
> *"Because I like to be connected and I like to be visual all the time. Why is that? Because maybe because I'm that kind of person that doesn't want to miss out on things, sometimes, especially on information… to grab that opportunity and not miss out on chances. Yeah. To take advantage of these things" (Martha)*

The twelfth and final factor of the *Technology Enhanced Tourist Experience*, 'ubiquity and unlimitedness' provided evidence that ICTs seem to be perceived as a facilitator of unlimited opportunities. This factor adds a new perspective to the tourist experience literature, which has not been recognised before. While mobility has been portrayed as an inherent feature of technology, knowledge about the actual impact of mobility, ubiquity and synchronisation on the tourist experience was limited. It is of particular interest that the notion of 'unlimitedness' essentially captures the disappearing limitations of static information resources and the lack of possibilities associated with traditional tourist experiences. This underlines the perception of the *Technology Enhanced Tourist Experience* as an integrated, dynamic and unlimited experience.

6.4 *Technology Enhanced Tourist Experience Outcomes*

Beyond having identified the twelve distinct factors that shape the *Technology Enhanced Tourist Experience*, it was of particular interest to take the analysis one step further in order to understand the possible outcomes that derive from this new type of tourist experience. Experience outcome dimensions have only been identified in a recent study by Wang et al. (2012). The authors classified a number of dimensions, including overall satisfaction, good value, rich experience, show off self-esteem and visit more places, to name just a few. In contrast to their work, the findings emerged in this study provide evidence for a more distinguished conceptualisation of factors and outcomes of the *Technology Enhanced Tourist Experience*. Through the coding process, outcomes were differentiated in three main dimensions. These include 1) outcomes relating to the *individual tourist*, 2) outcomes revealing the *attributes* associated with the experience itself and 3) outcomes in terms of *business impact*, indicating the implications for businesses that derive from this new type of tourist experience.

Understanding the co-creation, the enhancement and the experience factors, and beyond that, the outcome as a result of a *Technology Enhanced Tourist Experience* adds particular value to theory and practice. The findings transcend the knowledge of *how* this new experience is created, by illuminating *what* specific tangible and intangible outcomes such an enhanced tourist experience generates. In doing so, it provides critical implications for services marketing and management and the tourism domain, as it addresses the questions of '*why is it important to facilitate such an experience?*' and ultimately, '*what potential benefits does it imply for business competitive advantage?*'.



6.4.1 Tourist Experience Outcomes: Individual Tourist

Tourists' individual emotional and value outcomes were identified as a first outcome category that emerges from a *Technology Enhanced Tourist Experience*. Table 6-13 offers an overview of the specific outcomes, a brief definition and the number of NVivo

sources and references pertaining to each experience outcome. The findings are discussed in detail in alphabetical order next.

Table 6-13. Overview of Outcomes of Technology Enhanced Tourist Experience

Experience Outcomes	***Definition***	***Nr. Sources***	***Nr. References***
Achievement & Personal Growth	State of feeling personal growth and reaching and having achieved goals	7	11
Confidence, Reassurance & Calmness	State of feeling confident and calm, having information for reassurance	11	47
Contentment & Happiness	State of feeling happy, joyful and content through the experience	12	51
Personal Recognition & Privilege	State of feeling personally recognised, awarded, like a VIP and privileged	8	19
Self-Esteem & Narcissism	State of feeling proud of oneself, happy if others feel jealousy	13	75
Sense of Responsibility & Altruism	State of positive feeling obtained through genuinely helping others	12	24
Value	State of the personal value and benefits obtained through the experience	9	21
Total		**15**	**248**

Source: Author

Achievement & Personal Growth

The first possible outcome that tourists extract is the sense of 'accomplishment and achievement'. Participant narratives indicated that this outcome primarily emerges when specific activities and goals are accomplished, experiences are personally fulfilling or when experiences have led to self-actualisation and growth. Participants explained that they discover new ways of self-expression and achievement through the integration of ICTs. For instance, this is manifested as tourists are able to independently navigate through unknown cities, explore exciting places, expand knowledge about cultures and places and discover great restaurants through the use of ICTs.

Rather than relying on specific offline resources (e.g. asking people), tourists feel a sense of personal achievement, as they accomplish a challenging goal through the use of ICTs on their own. Beyond achievement, participants also reported that the integration of ICTs frequently increases their open-mindedness. This is because ICTs, for instance, provide access to information, which encourages tourists to try out new things and places or enables them to take advantage of unexpected opportunities, deals and offers. As a result, ICTs frequently open situations, which are unexpected and allow tourists to try novel experiences that lead to perceived self-fulfilment and personal growth. Two participants described this outcome through the following narratives.

"Using the smart phone, no matter if it is before, during and after it is also a growth process, help me to growth, expand my understanding for that destination and my travel experience." (Veronica)

"The sense of accomplishment when you actually find your way around a city and you actually get to see the things that you want to see." (Sandra)

Confidence, Reassurance & Calmness

The second outcome identified regards 'confidence, reassurance and calmness'. This outcome appeared to primarily result from the value of ICTs integration in the pre-travel stage. In this stage, participants noted that ICTs are highly useful in finding information needed to feel more confident about what to expect in the anticipated travel. With respect to the during-travel stage, participants highlighted that having ICTs gives them reassurance to have the necessary tools available to contact people, address emergencies and rectify possible problem situations whenever needed.

This conveys an enhanced confidence resulting from knowing that ICTs are available, in case 'something goes wrong'. The narratives also indicated that tourists feel reassured as ICTs allow them to keep in touch with people and let them know that 'everything is going well'. Beyond the feeling of reassurance, participants also noted that they feel safe, secure, calmer and generally 'at ease', when using ICTs to support the experience. As a result, calmness together with the feelings of peace, harmony, being able to relax and not having to worry are reported as main personal outcomes of a *Technology Enhanced Tourist Experience*. The following quotes report such feelings.

"You understand a little bit, you have a little bit more of control, you get another safety kind of thing to understand what is happening in the background." (Dan)

"I feel a lot kind of safer, to be fair, if I go to a place and my battery is dead on the phone it makes me feel anxious because I don't have the security in case something happens I can look it up." (Rachel)

Contentment & Happiness

Contentment and happiness have emerged as a further important outcome that tourists generate through a *Technology Enhanced Tourist Experience*. In many cases, participants described to feel happiness, fulfilment and instant gratification, when using ICTs to enhance their experiences. Happiness seemed to be particularly related with co-creating and sharing experiences with others online. For instance, participants reported that sharing allows other people to participate, co-live, offer suggestions and ideas, and

co-construct the own experience in real-time. This gives them a sense of joy, as the experience is not lived alone, but shared with, and shaped by, others. One of the emerging tenets in this respect is that 'experiences are real only when shared'. This has been frequently expressed by participants, as two representative narratives show below.

> *"I mean it enhances your experience, because you are already there and already enjoying…but if somebody is giving you more tips to enhance your experience then, definitely that will have a positive effect on me." (Andrew)*

> *"The thing is that I like the person that I love to be part of that experience, so I like the people that I love not to envy me, or to be like I don't know how to say…It is like, to share something beautiful to share something enriching, to share something that was nice for me. That's it." (Aaron)*

Personal Recognition & Privilege

Personal recognition was identified as another distinct outcome that can emerge within the individual tourist. The findings indicate that ICTs are often used as a means to enable personalisation, participation and co-creation. In particular, by engaging with companies, participants reported to have developed a sense of feeling recognised and valued. For instance, personal recognition can be obtained through technology-facilitated activities, when tourists are empowered to personalise their experiences, being recognised or awarded by companies for online engagement (e.g. likes or check-ins). Beyond feeling recognised, participants also described a sense of privilege as an outcome of their experiences. This is particularly enabled when tourists integrate ICTs as a resource to get unique advantages that would not have been possible without technology. Examples of such privileges include getting smart deals through LBS or skipping physical queues through mobile ticket purchase or check-in online. ICTs thus play a critical role in enabling these outcomes, as several participants reported below.

> *"I feel I'm more, I'm treated like a VIP in a sense, because I see the other people queuing in a sense and I go to the machine and get my ticket." (Aaron)*

> *"It makes me enjoy the experience more. It makes me feel recognised, and valued and important for the company. And I feel like I'm not one of many, I mean I am (smile) but you kind of have the feeling that you are valued." (Martha)*

> *"Yeah amazing, it feels amazing, you don't really expect that the company gives you something and then when you become the mayor, I didn't even know that I was becoming the mayor and they gave me something and it was out of the blue." (Teresa)*

Self-esteem & Narcissism

Self-esteem and narcissism were identified as the strongest personal outcome of a *Technology Enhanced Tourist Experience*. The findings show that several factors create enhanced self-esteem. For instance, participants noted that ICTs enable them to get attention, show off and boost the own ego by posting tourist experiences online. Social media thereby seem to play a key role in allowing tourists to share experiences, not merely for altruistic reasons, but also for egocentric and narcissistic purposes. In fact, participants highlighted that through sharing, they want to be perceived as expert travellers (when travelling often) and explorers (when going to destinations people of the own social circle have not been before).

The main scope is to get a sense of pride and positive admiration of the own 'travel accomplishments' by others, for instance, through Facebook comments and likes. The sharing of experiences also appeared to be about showing 'superiority'. A number of participants argued the desire to show that they are currently in a special or great place, while others are not. By doing so, they seek to trigger jealousy, as a means to boost their own levels of self-esteem in turn. The importance of self-esteem is reflected in the following narratives.

> *"You express yourself kind of sharing the pictures of making your friends jealous." (Laura)*

> *"Their attention… I mean if the place is really hidden or not many people know that place and you have been there as the first person in your network then it feels I don't know how to describe it, proud." (Teresa)*

> *"It engages me with them and it makes me proud when they comment something nice. It makes me proud that I shared this and it encourages me to do that more." (Martha)*

Sense of Responsibility & Altruism

The findings reveal a sense of 'responsibility and altruism' as another outcome tourists generate from a *Technology Enhanced Tourist Experience*. This seems to be primarily obtained through sharing experiences, pictures and moments with the social network online or writing useful reviews to inspire others. By inspiring, influencing and recommending places worth visiting, participants noted to feel like having accomplished something positive for others. Narratives indicated this help to be altruistic, in the sense that tourists seek to genuinely help others. They seem to do so by

bringing unique things to people's attention, showing them meaningful life insights and being helpful and informative, when others are trying to find nice places.

Several participants mentioned that sharing tourist experiences on social media is not only about feeling positive about oneself, but above all, about making a genuine contribution to other people's lives. In expressing an altruistic sense of 'helping others to have an equally nice experience', participants also confirmed to feel a sense of responsibility and obligation. They seem to feel obliged to share experiences and reviews with others to help them making decisions. In doing so, they seek to co-create meaning and value for and with others, as the following narratives underline.

> *"It makes me feel good, because I know that if they feel the same way about these kind of places, they will have a really nice experience themselves." (Rachel)*

> *"Just to make a contribution and you know that somebody might make a decision on the basis of your review… So by doing this I actually help people to make an informed decision about what to expect from the destination." (Steve)*

> *"Inspiring people to go there, I mean if the place is really hidden or not many people know that place." (Teresa)*

> *"Yeah just to give them an idea to go there because it is a nice location but not my actually personal experience in front of the Louvre or in front of the Eiffel Tower." (Jane)*

Value

Closely linked with positive feelings and emotional outcomes, value was identified as the final central outcome of the *Technology Enhanced Tourist Experience*. The findings indicate that the majority of participants emphasised an added, increased and superior value gained when integrating ICTs in their tourist experiences. Participants particularly highlighted the value that emerges when they are able to connect, and in doing so, can take advantage of offers and deals available. Participants further noted that access to information, gathering additional knowledge and getting reviews are key features of ICTs that add great value to the experience on-site. Three representative examples of how tourists co-create value by using ICTs as a resource are shown below.

> *"That I kind of have and can make expectations before, that I kind of know what is going on I think that you don't miss out on chances, I think that is a big value." (Martha)*

"It gives me recommendations of the place I am for example restaurants or clubbing or sightseeing, museums and stuff like that which I like a lot. And it is an extra tool to see what is around me, whether there are any offers around or any deals that I can get. That is what I mostly value." (Sandra)

"The main value of being constantly connected… that you are in charge of something, that you are able to access all kinds of information from one point. That is the main value for me. Everything I need, I can find it there. In different forms, that is the main value for me." (Sandra)

In summary, seven distinct experience outcomes for the individual were found to emerge from a *Technology Enhanced Tourist Experience*. The detailed understanding of such experience outcomes is of particular importance for two main reasons. This knowledge goes beyond explaining the new experience, as it illuminates the personal outcomes that tourists derive from it. In addition, the findings confirm not only that the tourist experience is enhanced by ICTs and that tourists extract distinct value (Tussyadiah and Zach, 2011; Kim and Tussyadiah, 2013; Yovcheva et al., 2013).

Rather, the findings add an in-depth theoretical understanding of *what specific outcomes* are created and what kind of *value* emerges. One question that has captured the attention during the analysis was whether, and how the twelve experience factors relate to the seven experience outcomes. In other words, '*do all factors simply create 'generic value'? Or can different experience factors lead to different personal experience outcomes and value?*' For this purpose, an NVivo matrix query analysis was performed to reveal potential patterns of how these variables relate to each other, as shown in Table 6-14.

Table 6-14. Relationship Experience Factors and Experience Outcomes

	A: Achievement & Personal Growth	B: Confidence, Reassurance & Calmness	C: Contentment & Happiness	D: Personal Recognition & Privilege	E: Self-Esteem & Narcissism	F: Sense of Responsibility & Altruism	G : Value
1 : Connectedness & Closeness	1	13	1	0	1	3	3
2 : Convenience & Efficiency	0	3	1	1	0	0	1
3 : Education & Information	2	6	2	0	2	0	6
4 : Independence & Safety & Control	0	16	1	0	0	0	1
5 : Individualisation & Personalisation	0	1	1	1	0	0	3
6 : Locality & Authenticity & Territoriality	1	2	1	2	2	0	1
7 : Novelty & Playfulness & Companionship	3	2	4	0	0	0	2
8 : Serendipity & Unexpectedness & Discovery	5	2	5	2	1	0	3
9 : Sociality & Social Engagement	2	5	6	0	14	8	0
10 : Timelessness & Memoralisation	0	0	2	0	1	0	0
11 : Timeliness & Real-Time	2	0	3	1	2	0	0
12 : Ubiquity & Unlimitedness	2	2	4	0	0	1	3

Source: Author

The findings reveal that several factors are related to experience outcomes, to varying extents. The analysis indicates that the factor '*independence, safety and control'* (16 references) and the factor '*connectedness and closeness'* (13) are associated with the experience outcome '*confidence, reassurance and calmness'*. This suggests that tourists, who use ICTs independently, are in control and are connected to others, in case help is needed. As a result, they seem to feel calmer and more secure in their tourist experiences. The factor '*sociality and social engagement'* appeared to be related to the outcome '*self-esteem and narcissism'*. This relationship might suggest that tourists connect, share experience and engage with others primarily for the personal outcomes to show off and boost the own self-esteem (14). Interestingly, the matrix indicates that sharing for '*altruistic'* purposes is reflected in fewer narratives (8), and sharing for the purpose of pure '*contentment and happiness'* (6) only appears to be the third most important reason.

With respect to '*education and information'*, the analysis reveals a relationship with '*confidence, reassurance and calmness'* (6) as well as '*value'* (6). This could suggest that access to education and information through ICTs provides not only value, but also conveys a sense of reassurance and confidence within the tourist experience. Unlike quantitative correlations, qualitative relationships need to be interpreted as merely indicative of possible patterns in the data, which might provide the basis for future quantitative research. Nonetheless, qualitative patterns can offer valuable guidance to understand what specific factors need to be facilitated, if specific experience outcomes are desired. This could be of particular relevance for services and tourism practice.

6.4.2 Tourist Experience Outcomes: Attributes

As a second outcome theme identified, it was evident that the *Technology Enhanced Tourist Experience* was described through a number of distinct attributes. In this vein, Volo (2009) highlighted that people usually adopt a set of adjectives, which can be of positive or negative nature, to describe the totality of a particular experience. It was thus of interest to understand what attributes tourists associate with, and ascribe to, the *Technology Enhanced Tourist Experience*. The interviews revealed a wide range of single adjectives, which have been merged into meaningful categories in the qualitative analysis. Table 6-15 provides an overview of experience attributes, a brief definition and the number of sources and references, while the attributes are discussed below.

Table 6-15. Overview of Technology Enhanced Tourist Experience Attributes

Experience Attributes	***Definition***	***Nr. Sources***	***Nr. References***
Enhanced & intense	Feeling an enhanced, improved and more intense experience	9	21
Intriguing & exciting	Feeling an exciting, curious and intriguing experience	9	33
Smooth & up-to-date	Feeling a convenient, updated and overall calm and smooth experience	5	12
Outstanding & superior	Feeling a better, superior, and extraordinary experience	10	22
Total		**13**	**88**

Source: Author

The first emerged attribute category '*enhanced and intense*' indicates the state of the *Technology Enhanced Tourist Experience*, as an experience that is better, improved and more intensive. Participants described that compared to a traditional tourist experience, a technology enabled experience is boosted and enriched on many levels. It is also portrayed as being 'beyond expectations' and offering 'something extra', a bonus and a

plus added. By putting it in simple terms, one participant described it as below. In a similar vein, the attribute 'intense' was used, as participants defined the experience as more powerful, holistic, broad and immersive. Especially due to the facilitation of information, which becomes available offline and online, participants indicated that a technology enhanced experience is more intensified. Essentially, it combines the physical and the virtual world in the moment of experience creation. One participant emphasised the opening of opportunities, rendering it a broader, inclusive experience.

"If you have a good experience it just gives a little bit of extra" (Dan).

"I think it is a broader experience… technology opens you more opportunities and if you don't have that you are only limited to your knowledge that you have." (Martha)

The second, and most dominant, attribute emerged was named '*intriguing and exciting*'. Participant narratives revealed that through ICTs the tourist experience becomes more interesting, creative, informative, novel as well as fun and futuristic. This attribute outcome is primarily related to the factor 'novelty, playfulness and companionship', which describes the use of novel ICTs to experiment, participate in social gaming and make the experience more interesting. Participants indicated that these, and similar, activities can add an aspect of entertainment and excitement to the tourist experience. Two statements are illustrative of this attribute.

"I think Augmented Reality has a little bit of fun factor to it…I think it increases the fun factor and it would make me use it even more." (Martha)

"Because all of these new, also augmented reality apps and so, it definitely makes it more interesting. Because you get more information everywhere and personal information from people and reviews. I think that is very interesting." (Laura)

The third attribute is '*smooth and updated*', which indicates that the experience becomes easy, hassle-free, worry-free as well as up-to-date through ICTs. In their narratives, participants described these attributes as a result of the numerous advantages of ICTs, by enabling convenience and efficiency and allowing access to a wide range of information. Due to information access whenever and wherever needed, the experience is perceived to be smoother and less stressful than traditional experiences without ICTs support might turn out to be. Additionally, the experience was described as updated, which refers to the possibility of accessing up-to-date and real-time information. The following statements emphasise these attributes.

"Less hassle, for me it is less trouble. I don't want to ask people. It saves me a lot of time." (Veronica)

"I think it is up-to-date and using the mobile applications it gives you a more nicer experience." (Teresa)

The final attribute identified was '*outstanding and superior*'. It reflects participants' euphoric expressions in describing the *Technology Enhanced Tourist Experience* as an extraordinary experience. Several participants used positive words, such as appealing, awesome, cool and fantastic to refer to the experience. Beyond that, participants also noted that ICTs create unique and more meaningful experiences, while a few participants stated that it is the 'perfect experience' or the 'best experience' one tourist could possibly have, as reflected by the example below.

"Without technology if you go somewhere for tourism, you may have a good experience, everything is an experience, good or bad thing, bad you may have a good experience, but not the best experience." (Andrew)

In summary, it appeared that four distinct attribute categories are associated with the *Technology Enhanced Tourist Experience*. This knowledge adds value as it emphasises that the tourist experience is not merely 'enhanced' in a generic sense, but is essentially enhanced in different aspects. These attributes could be used by services and tourism marketing organisations to develop effective marketing communication strategies that promote the underlying value proposition of integrating ICTs for more intense, intriguing, exciting, smoother, up-to-date, outstanding and superior tourist experiences.

6.4.3 Tourist Experience Outcomes: Business Impact

Beyond experience outcomes for individual tourists, it was important to identify potential business impacts and outcomes of the *Technology Enhanced Tourist Experience*. Participants were asked about the consequences and the potential return on investment (ROI), in case a company facilitates this distinct new type of experience. The analysis illuminates outcomes on two main levels, which were chronologically conceptualised into 1) *short-term impact* and 2) *mid- and long-term impact*.

Short-Term Impact

Immediate, short-term business outcomes emerged as a result of ICTs integration into the experience, immediately during or shortly after the consumption has taken place. Narratives pointed to financial returns, recommendations and word of mouth. *Immediate financial returns* were reported as a direct outcome of an enhanced experience. Several participants noted an increased willingness to give tips and extend their consumption process by consuming another drink or dish as a consequence of a satisfying and novel ICTs enhanced experience. For instance, one participant, Martha, recalled a scenario in which she received a voucher, due to her online engagement with the company, which encouraged her to extend her stay in a restaurant:

> *"You even stay longer in some cases because if my voucher for example is a tea, I take it after my meal and not with my meal (smile). Or if the experience is NICE, why would I go somewhere else in that moment if it is a nice evening?" (Martha)*

Beyond this example, there is evidence that suggests that a positive *Technology Enhanced Tourist Experience* can result in financial returns for the company. Participants emphasised that they want to give back to the company, as a way to express the value, gratitude and satisfaction derived from the experience. Another business-relevant outcome identified regards '*recommendations and WoM'.* In line with tourist experience literature, reporting word of mouth (WoM) as a possible outcome (See-To and Ho, 2014), it was found that recommendations, reviews and shared experiences online appear to be a direct outcome of a successfully technology enhanced experience.

For instance, participants noted that having lived a satisfactory experience makes them share experiences with their social networks in order to encourage other people to experience it for themselves. In doing so, they reward the tourism provider by spreading positive WoM. This is not only shared in the consumer's private sphere offline and online, but is also taken to public review platforms. Online review platforms (e.g. TripAdvisor, Booking.com, Yelp or Qype) are used to provide positive comments about enhanced experiences. Participants underline the value of online reviews 'in giving back' to the company, as a more effective way to reward the company, rather than simply leaving a tip. One comment by Aaron provides an illustrative example:

> *"If someone puts a lot of effort in making you happy and making you welcome in their properties, I like to I prefer to reward them with a nice review." (Aaron)*

Mid- and Long-Term Impact

Mid- and long-term outcomes were identified as more long-lasting impacts derived from a positive *Technology Enhanced Tourist Experience*. Such impacts include engagement, trust, relationship, positive image, loyalty and future behavioural intentions. The findings provide evidence that tourists develop a sense of appreciation and *'level of trust'* towards tourism service providers, as an outcome of a positive experience. This particularly occurs when tourists connect with companies through channels online, co-create experiences and develop *'long-lasting relationships'* with them. For instance, personal engagement and interaction (via status updates on Facebook or via tweets on Twitter) were reported to nurture a strong relationship with a provider, which can subsequently provide the basis for long-term loyalty. Participants suggested that this type of contact can result into a 'mental note' that will allow them to recall the company later. Long-term outcomes primarily appeared to relate to a positive company image, re-visitation and choice over competitors. Steve and Martha, talking about engagement with companies online, made the following observations on their personal attitudes towards a company and consequent future behavioural intentions:

> *"If two airlines were offering the same flights within the same price, then I would probably go for that company because I'm more familiar with that company." (Steve)*

> *"I think it gets me closer to the company and also I'm feeling like an individual and I feel that if they answer my question I feel more, I feel like I can even go back to them and ask them again." (Martha)*

While the business outcomes of the *Technology Enhanced Tourist Experience* only played a marginal role in this study, these exploratory insights are highly relevant to understand some of the potential tangible impacts of the experience enhancement for services marketing and management and the tourism industry. In fact, it is pivotal for businesses to understand how to "*facilitate and enhance value co-creation for mutual and long-term betterment*" (Karpen et al., 2012, p.21). In this sense, the facilitation of a *Technology Enhanced Tourist Experience* could take value propositions, co-creation, and in turn, business competitive advantage to the next level. From a business perspective, the findings are relevant as they reveal how facilitating ICTs as resources for tourist experience enhancement could translate into a number of short-term and long-term outcomes and return on investment.

6.5 *Chapter Summary*

This chapter, at the core of this thesis, has contributed in revealing the 'essence', in other words the factors, that constitute the *Technology Enhanced Tourist Experience*. Being composed by four main sections, the chapter has first presented the granularity of the tourist experience, which shed light on the granular elements that represent the traditional tourist experience. This section has contributed by identifying pre-experience influences, experience creation and post-experience outcomes as well as the 15 overall granular factors that determine the tourist experience (section 6.1). Section 6.2 was then concerned with understanding how the granular elements change through the integration of ICTs. Three main changes were illuminated in that the tourist experience is enhanced, remains the same or is diminished when ICTs come into play. It was revealed that all granular factors seem to be enhanced to varying extents, while only a minor number of factors are maintained or diminished by ICTs.

Overall, it was concluded that ICTs are transformative by changing, and specifically enhancing, the tourist experience. This evidence not only supports the argument that current tourist experience conceptualisations are no longer sufficient to explain the integration of ICTs. Beyond that, the findings reinforce the rationale for this study to conceptualise the *Technology Enhanced Tourist Experience* as a distinct theoretical concept. The third section of this chapter, section 6.3, has revealed the twelve overall factors of the *Technology Enhanced Tourist Experience*, as the core contribution of this study. This was complemented by the fourth and final part (section 6.4), which went even beyond the factors, to present the emerged experience outcomes for individual tourists, experience attributes and the business impact of the *Technology Enhanced Tourist Experience*. These findings make a valuable, tangible contribution, by not only explaining what the new experience 'looks like', but also importantly, what levels of outcomes, benefits and value are created, when this type of experience is facilitated. Chapter 7 now turns to offer a conceptualisation of the findings emerged in the foregone Chapters 4, 5 and 6, and discusses these in relation to the existing literature.

CHAPTER 7: THEORY DEVELOPMENT AND DISCUSSION

Chapter 7 draws upon the findings presented in Chapters 4, 5 and 6 with the scope to develop a new theory and revise the existing theoretical foundations in light of the findings. The first section of the chapter develops the *Technology Enhanced Tourist Experience* concept. It revises the initial conceptual framework, presented in Chapter 2.5, and integrates the empirical findings. This leads to the presentation of the study's most significant contribution: the holistic theoretical model of the *Technology Enhanced Tourist Experience*. A detailed discussion of the model is provided to offer insights into how each component has been conceptualised and is integral to understanding the new concept holistically.

In the subsequent sections, some of the most significant findings of the research are discussed in relation to previous literature. In this frame, emergent theories and previous theories are compared, the study's contributions are accentuated and several theories are revised, based on the new understanding gained. Specifically, the discussion encompasses the conceptualisation of a) Technology Enhanced Tourist Experience Co-Creation, b) the Technology Enhanced Tourist Experience Factors and c) the Technology Enhanced Tourist Experience Travel Stages.

7.1 *Conceptualising the Technology Enhanced Tourist Experience*

The initial conceptual framework, emerged at the end of the literature review in Chapter 2.5 is now revisited to encapsulate the empirical findings. Figure 7-1 presents the holistic theoretical model of the *Technology Enhanced Tourist Experience*. In integrating the components of several key contributions presented in the Findings Chapters 4, 5 and 6, Research Objective 5 is addressed. The model is explained in a detailed theoretical discussion, discussing each component and highlighting how the initial conceptual framework has been modified, and most importantly, what insights have been added into the new conceptualisation below.

Research Objective 5

To develop a holistic theoretical model of the Technology Enhanced Tourist Experience

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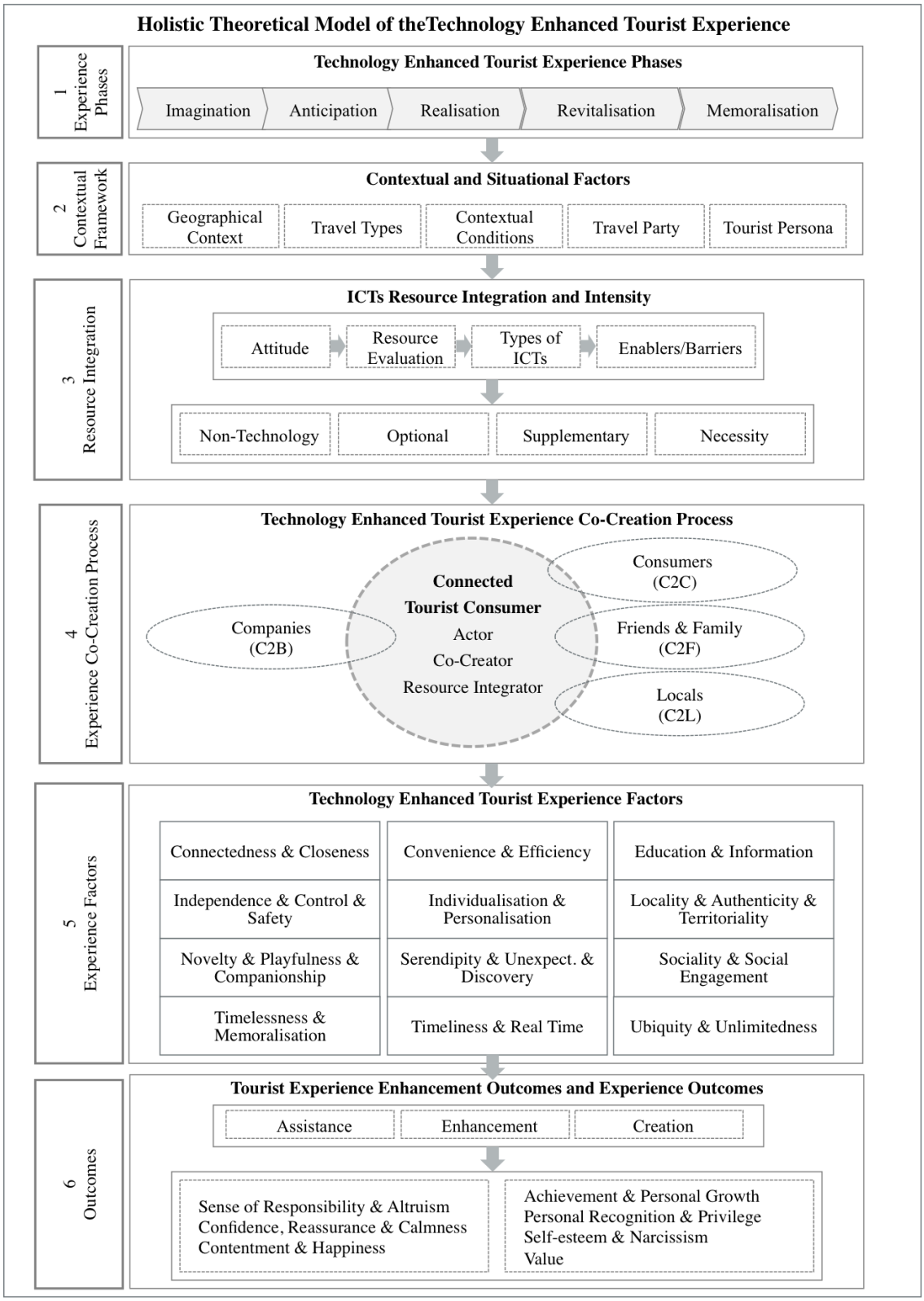
Figure 7-1. Holistic Theoretical Model Technology Enhanced Tourist Experience



Source: Author

1) Experience Phase: Technology Enhanced Tourist Experience Phases

The initial conceptual framework (Figure 2-12) was based on the knowledge that the tourist experience is characterised by a linear physical pre/during/post stage travel process. With the findings providing evidence for a more flexible understanding of tourist experiences, due to the integration of ICTs, such conceptualisations appear too rigid. Thus, the initial three-stage travel process was revised and a *fluid five-phase* process was conceptualised. Thematic components were proposed, consisting of imagination, anticipation, realisation, revitalisation and memoralisation. As ICTs have allowed for more dynamic ways in which tourist experiences are lived, physical travel is no longer the main determinant of travel stages. Rather, it is the range of thematic activities that are dynamically performed anywhere and anytime during travel, which are of relevance. Its detailed conceptualisation is presented in Chapter 7.4.

2) Contextual Framework: Contextual and Situational Factors

This component is new to the model, as it has not been reflected in the initial conceptualisation. The findings provide evidence for the need of such a category, by demonstrating that the tourist experience enhancement process is influenced and shaped by several contextual factors. These include the geographical context, contextual variables, holiday type, travel party, holiday variables and the tourist persona. These six factors singularly, and conjointly, determine how and to what extent ICTs are, and can be, integrated for experiences to be enhanced. The integration of ICTs, and thus the enhancement process, are highly context-dependent and shaped by the particular travel situation. Tourists might encounter problems, which cause a specific tourist need to emerge, which is then addressed by integrating ICTs as resources to enhance specific activities, and in turn the overall tourist experience.

3) Resource Integration: ICTs

The integration of ICTs in the tourist experience was found to depend on a number of factors. First, the individual's relationship with ICTs shapes the extent of their integration. A very positive attitude towards technology might result in a strong use of ICTs in the travel process, while the preferences towards human interactions might limit the integration of ICTs. In the next step, the tourist, in light of the available resources, evaluates the potential value that can be co-created (or co-destroyed) by integrating traditional resources or ICTs in the tourist experience. In this context, the tourist

identifies what types of ICTs are available to address the need situation. In this entire evaluation process, technological enablers and barriers were found to play a significant role in shaping to what extent ICTs can be integrated. While ICTs might offer the required information for making a decision or solve a problem, structural barriers, such as roaming costs or the lack of Internet connection might limit its integration and consequently restrict the possibilities of experience enhancement. Based on these factors, it was found that the integration of ICTs varies, leading to a possible outcome of four different levels of ICTs use, including non-technology, optional, supplementary and necessity integration.

4) Experience Co-Creation Process: Technology Enhanced Tourist Experience

By integrating ICTs, tourists not only address specific needs and tourist activities, but most importantly, co-create to allow for a tourist experience to emerge. In analysing co-creation from a two-fold company-consumer actor perspective it was revealed that co-creation occurs in four predominant forms, namely between consumers and companies (C2B), consumers (C2C), friends and family (C2F) and locals (C2L). The tourist consumer is at the heart of this process and co-creates with multiple actors. While the initial conceptual framework has presumed a main focus of co-creation on the dyadic company-consumer relationship, the emerged findings point to a dominance of multiple relations that are significant and integral to the tourist's co-creation. The revised model thus demonstrates two main co-creation spheres, in which the tourist consumer co-creates with the company (*company sphere*) and consumers, friends and family as well as locals in a *wider connected actor sphere*. The detailed conceptualisation of experience co-creation is discussed in section 7.2 below.

5) Experience Factors: Technology Enhanced Tourist Experience

The main contribution of this study is to capture the essence of the *Technology Enhanced Tourist Experience*, by identifying the factors that constitute the concept. A total of twelve distinct factors has emerged, describing the specific characteristics that render the *Technology Enhanced Tourist Experience* a unique concept. Based on the findings, it was found that these factors stand in sharp contrast to previous tourist experience conceptualisations. In fact, only four of the twelve factors were found to overlap with the 15 granular factors of the tourist experience. This evidence demonstrates not only the massive extent to which the traditional tourist experience is

transformed through ICTs, but also reinforces the initial rationale for this study to explore and conceptualise the *Technology Enhanced Tourist Experience* as a novel and original concept. A detailed conceptualisation of the emerged factors in relation to the granular tourist experience factors is provided in section 7.3 below.

6) Experience Outcomes: Technology Enhanced Tourist Experience

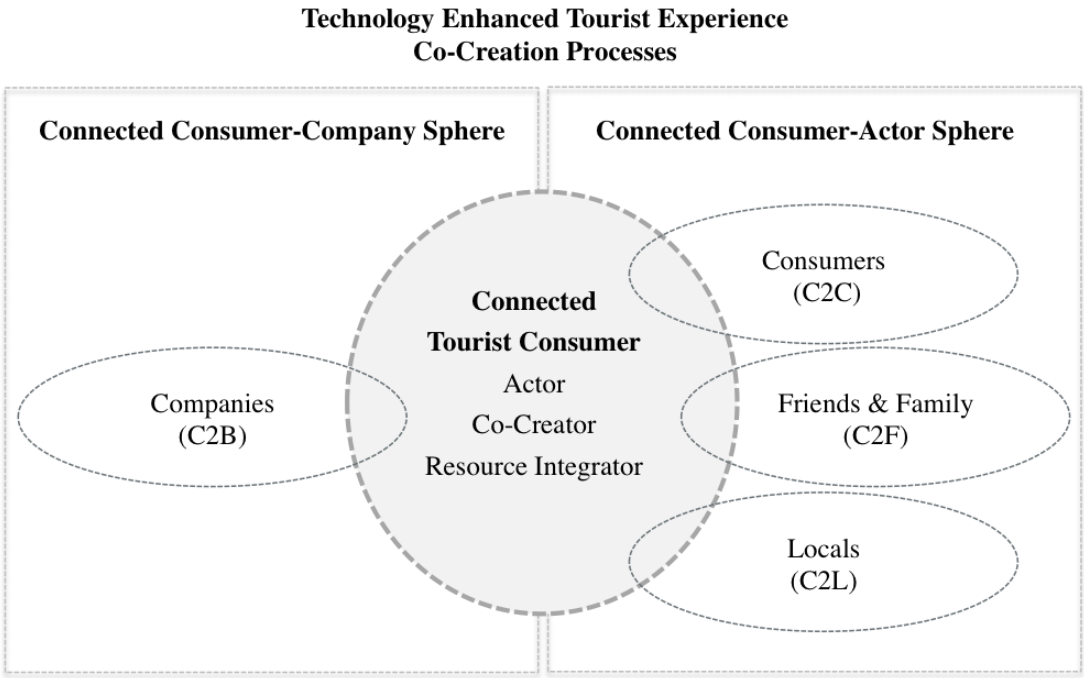
The last component of the theoretical model sheds light on the specific outcomes of the *Technology Enhanced Tourist Experience*. This adds a novel dimension to the theoretical model, which has not been conceptualised in the initial framework. It was found that the integration of ICTs in the tourist experience does not yield one single experience. Instead, due to the varying extents of ICTs integration, different enhancement outcomes occur, which are conceptualised as assistance, enhancement and creation. While assistance describes the use of ICTs to support activities on a functional level, enhancement indicates the use of ICTs to make specific aspects of the experience better, and creation represents the notion of integrating ICTs in a way that allows for an entirely new experience to be created. In addition, experience outcomes emerged pertaining to the specific value that tourists derive from a *Technology Enhanced Tourist Experience*. Beyond the assumption that generic 'value' emerges, the findings indicate specific outcomes, such a confidence, contentment, achievement, personal recognition and self-esteem. These outcomes add valuable knowledge of *why* it is important to facilitate a *Technology Enhanced Tourist Experience* and *what specific* value propositions and outcomes can occur.

7.2 *Conceptualising Technology Enhanced Tourist Experience Co-Creation*

The findings have revealed that tourist experience co-creation through ICTs takes place on multiple levels. It requires the interconnection of multiple actors, who integrate their respective resources in the facilitation and co-creation of a tourist experience. This research has contributed to the S-D logic and experience co-creation theories through the lens of ICTs in the context of tourism. The findings provide evidence that experience co-creation not only occurs on a generic, linear level, as highlighted by Vargo and Lusch (2011). Instead, it was found that four distinct technology enhanced experience co-creation processes occur. These were conceptualised as consumer-to-company (C2B), consumer-to-consumer (C2C), consumer-to-friends-family (C2F) and

consumer-to-local (C2L) co-creation. Figure 7-2 provides a model of the distinct '*Technology Enhanced Tourist Experience Co-Creation Processes'*, which contributes to experience co-creation, the S-D logic and the services marketing and management discipline on several levels.

Figure 7-2. Technology Enhanced Tourist Experience Co-Creation Processes



Source: Author

Recent literature has argued that ICTs facilitate co-creation (Ramaswamy and Gouillart, 2008), but has failed to recognise deeper and more differentiated layers of co-creation. This study adds knowledge to the theoretical construct of the A2A perspective, in that it has revealed four main types of experience co-creation, which emerge through the facilitation of ICTs. Consistent with the recently emerged assumptions of A2A relations in a complex service (eco)system (Wieland et al., 2012; Akaka and Vargo, 2014), the findings point towards multiple actors involved. Until now, the conceptualisation of involved actors (A2A) has been fairly abstract, as to *who* specifically engages in co-creation. While the literature has primarily recognised dyadic forms of C2B co-creation (Ramaswamy, 2009a; Grönroos, 2011; Vargo and Lusch, 2011), centralising a firm-customer service exchange, the findings align with a broader and more integrative actor perspective. It was revealed that while companies have often been placed at the starting point, as the actor, who initiates the experience creation, this portrayal is incorrect.

Instead, it is the consumer, who assumes the central role in the co-creation of his or her own tourist experiences through ICTs in a surrounding, connected actor network. Nonetheless, the findings confirm that C2B interactions still play a main role. The tourist consumer co-creates with the tourism company in a connected C2B sphere. Beyond that, it was highlighted that the tourist connects and co-creates within a sphere of connected actors that lie outside the company domain. In light of these results, the initially conceptualised company-consumer experience co-creation perspective (see Conceptual Framework Figure 2-12) had to be extended and revised. The novel conceptualisation views the services provider as a secondary actor and places the consumer in the centre of the co-creation process. This has also been reflected in the advocacy to adopt the term C2B co-creation (emphasising the consumer as the primary actor) as opposed to the traditional term B2C co-creation.

The findings have led to the recognition that the connected tourist consumer is an empowered individual, who chooses with whom to co-create, from a myriad of actors. This is in line with a recent study by Helkkula et al. (2012), who suggest that co-creation can encompass a multitude of social dimensions in a range of social contexts. Durrande-Moreau et al. (2012) further confirm the presence of several actors in the value creation process. It can include consumers, the company and its employees, who can operate as resource integrators, embedding their own resources to co-create experiences and value collectively. Similarly, Baron and Harris (2008) indicated consumers as resource integrators and Sigala (2009) confirmed the importance of consumer participation and inter-customer support in the Web 2.0.

However, only limited studies have distinguished co-creation processes and the actors involved. Only one stream within the literature has advocated that in the service setting, co-creation interactions take place among unacquainted customers as well as between consumers and their acquaintances, friends and family members (Rosenbaum and Massiah, 2007). In a similar vein, Verhoef et al. (2009) called for the need to look into co-creation processes, particularly the way in which consumers interact with groups, including family, friends and peers, which has been missing in research to date. This study is thus considered as the first work to differentiate distinct co-creation processes, based on several actors, within the context of tourism and ICTs. The model conceptualises the consumer's role as the central creator of experiences, together with companies, consumers, friends and family and locals.

The findings reveal that participants did not consciously distinguish between co-creation with the service provider and co-creation in the private consumer domain. Rather, they gave an account of all the actors they connect, engage and interact with in the entirety of their network during experiences. What participants appeared to distinguish are the motivations as to 'why they co-create with certain people' and the value of 'why is this beneficial and why is one actor more beneficial than another'. It is evident that consumers make active decisions about which resource (ICTs) and which actor (e.g. companies, consumers, friends or locals) to integrate in a given need situation. This evidence suggests that it is not a decision against the service provider and the provided resources. Rather, it is the selection of the most appropriate and relevant resource with the potential to allow the tourist to generate most value, by co-creating with the specific actors needed in a particular context of use.

The findings revealed that each type of co-creation through ICTs creates a very specific value. For instance, tourists revealed that C2C provides distinct value over C2B co-creation, as it is less commercially driven and represents a more unbiased representation of information. While C2C co-creation might be value on a number of levels, it was noted that C2F and C2L co-creation are perceived to be more reliable as a source of information, particularly in the decision-making process. While C2C opinions are generally trusted, opinions and advice from people, such as families and friends, and locals, are regarded as more trustworthy and, hence, superior to consumer-generated content. For instance, when making a holiday booking decision, participants emphasise the value of C2F over C2C co-creation. While consumer communities offer a spectrum of recommendations and opinions, the personal suggestion of a trusted friend or family member out-values the consumer created content available online.

The conceptualisation of tourist experience co-creation as four distinct dimensions has critical theoretical implications for the S-D logic and experience co-creation. While the existing literature has argued that technology facilitates co-creation (Ramaswamy and Gouillart, 2008), this study makes a first contribution, by uncovering *how* ICTs specifically facilitate co-creation, *who* is involved and *how* such co-creation processes occur. It has concluded that co-creation is not a single process, but rather occurs on multiple levels and intensities, on which the social, mobile and connected tourist co-creates. In this light, the study advocates to go beyond the singular term of co-creation.

Rather than using 'co-creation' as a generic means to indicate the interaction, engagement and creation of experiences, this study proposes the need to recognise 'experience co-creation nuances', which distinguish the different ways in which tourist co-create through technology. This knowledge thus makes a contribution to the S-D logic perspective and the A2A perspective, which need to be expanded to account for C2B, C2C and most importantly, C2F and C2L co-creation when ICTs come into play. This study provides the foundation for a differentiated conceptualisation and encourages further research avenues that contribute to a less abstract and more tangible and distinguished understanding of how co-creation in service contexts takes place.

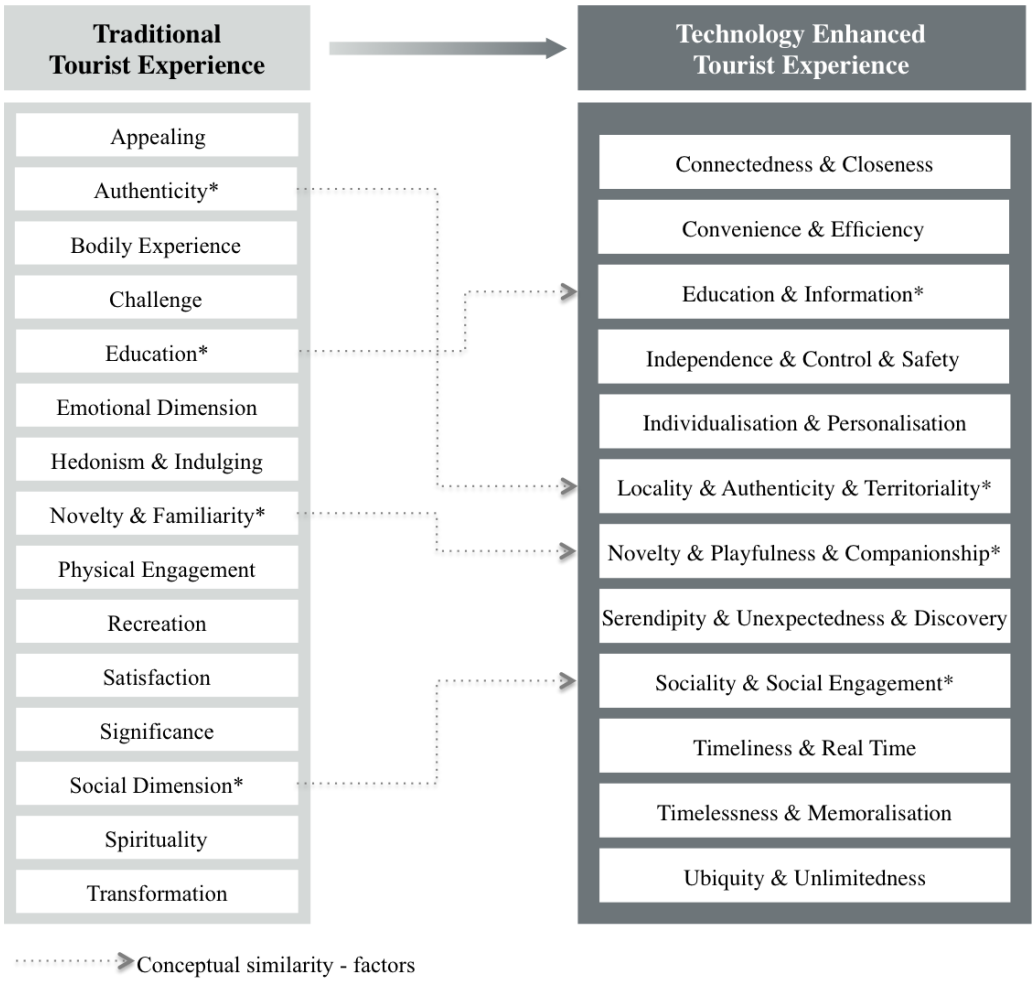
7.3 *Conceptualising Technology Enhanced Tourist Experience Factors*

In illuminating the factors of the *Technology Enhanced Tourist Experience* in Chapter 6, several noteworthy contributions to the tourist experience theory unfold. In examining how the granular elements of the traditional tourist experience change, the findings indicated that all factors are enhanced, while some factors remain unaltered and others diminished due to the integration of ICTs. This knowledge provides substantial evidence of the fact that ICTs are indeed transformative in changing the nature of the traditional tourist experience, which corroborates with previous work claiming this effect (Tussyadiah and Fesenmaier, 2009; Wang et al., 2014). Beyond these studies, the findings of this study contribute in having painted a comprehensive picture in precisely demonstrating how this change is manifested. In fact, only by having a full understanding of the tourist experience first, it was possible to demonstrate how the 15 factors are enhanced, diminished or remain unaltered.

Beyond confirming the change of the granular elements, the findings shed light on the fact that twelve novel factors emerged, which did not exist in prior theoretical frameworks and conceptualisations of the tourist experience. The identification of these factors is the core theoretical contribution of the study. These factors are unique in that they represent the core characteristics of the *Technology Enhanced Tourist Experience*, which render it a distinct concept. The presence of these distinguished factors reinforces the initial rationale to embark on exploring the *Technology Enhanced Tourist Experience*, which is worthy of being established as a new type of tourist experience type in its own right.

In order to accentuate effectively how different the *traditional* and the *new* tourist experience concepts are, the factors are now contrasted and conceptualised. Figure 7-3 demonstrates both experience types and their inherent factors. In juxtaposing both types, it was concluded that the majority of the factors (12/15) are distinct, while four factors seem to be maintained in a similar, while expanded form. The factor 'authenticity' seems to be reflected in the new factor 'locality & authenticity & territoriality'. The factor 'education' becomes a part of 'education & information' and the factor 'novelty & familiarity' remains partially included in 'novelty & playfulness & companionship'. The fourth similarity exists between the factor 'social dimension', which is advanced into 'sociality & social engagement'. The conceptual similarities are pinpointed accordingly with arrows below.

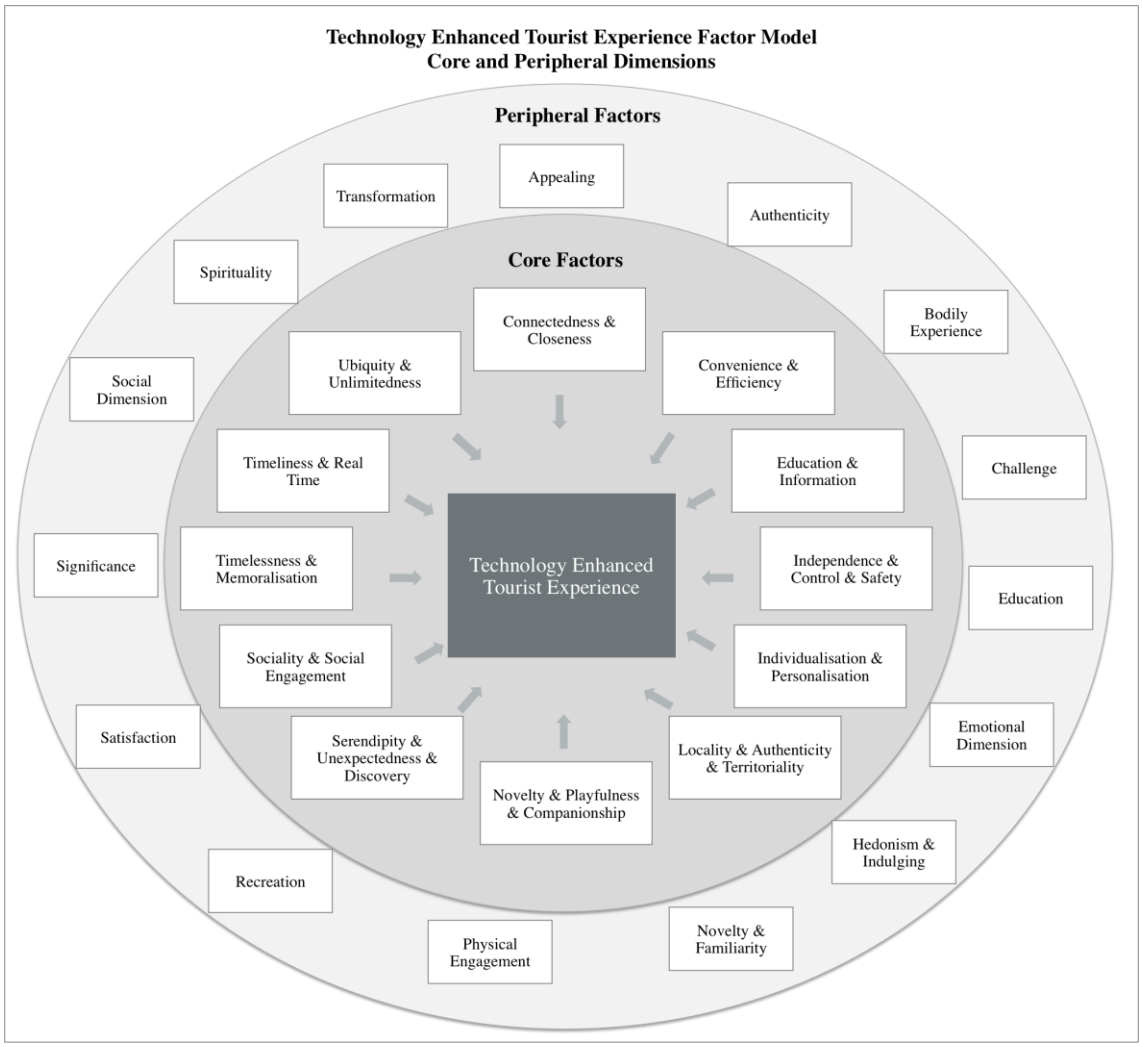
Figure 7-3. Tourist Experience vs. Technology Enhanced Tourist Experience



Source: Author

Based on the comparison of the granular factors of the tourist experience and the *Technology Enhanced Tourist Experience*, it was concluded that the granular elements of the tourist experience do not 'simply disappear' when ICTs come into place. Rather, they change and are enhanced to different extents (see Chapter 6.2). As a consequence, the *Technology Enhanced Tourist Experience* can be conceptualised in a final, large factor model that takes into account this integrated assumption. Figure 7-4 offers a graphical model that integrates the twelve factors that determine the very nature of the *Technology Enhanced Tourist Experience* at its core. These are surrounded by 15 factors of the traditional tourist experience, which can be labelled 'peripheral' and have the potential to be enhanced to a greater or lesser extent through the integration of ICTs.

Figure 7-4. Technology Enhanced Tourist Experience Factor Model



Source: Author

7.4 *Conceptualising Technology Enhanced Tourist Experience Travel Stages*

The findings provided evidence that the conceptualisations of the three-travel stages need to be revised in light of ICTs integration within experiences. Prior to the impact of ICTs, the tourist experience was predominantly portrayed as a three-stage pre/during/post travel process (Craig-Smith and French, 1994; Gretzel et al., 2006a). However, with the integration of ICTs, these stages have become less distinct, as technology has caused a shift of activities throughout the stages, as demonstrated in Chapter sections 5.41 and 5.4.2. The findings have suggested that activities, which were traditionally done in the pre-travel and post-travel stages, such as planning, booking and sharing increasingly shift towards the during-travel stage. The findings have thus led to the need to revisit the static three-travel stage process and to conceptualise a fluid tourist experience process that characterises the dynamic nature of tourist activities due to the integration of social and mobile ICTs in the travel process.

In the pre-travel stage, evidence suggests that inspiration has become a dominant activity, which is particularly facilitated by visual content online, such as images and videos. Information search, planning and decision-making are transforming as tourists have stopped to primarily rely on the pre-organisation of their trips, which causes a shift towards a dynamic planning approach via the integration of mobile resources on the move. Due to the growing availability of accessible information, decisions about visiting sites, attractions and restaurants are increasingly made directly in the destination. As a consequence, these findings imply that detailed pre-travel planning is losing importance, while mobile and agile planning is gaining momentum and the boundaries between pre-travel and during-travel activities become blurred.

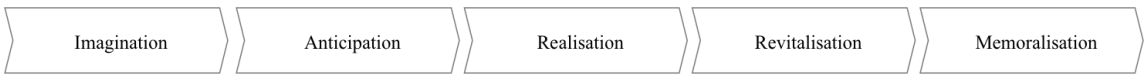
In line with recent literature, the findings demonstrate the transformation of during-travel stage activities, such as information search, sharing, locating and navigating (Tussyadiah and Fesenmaier, 2009; Wang et al., 2010b). Through the integration of mobile technologies on the spot, information becomes more relevant, sharing more intensive and navigation faster and more efficient. The findings indicate that tourists conduct planning on-site due to the flexibility and ease of connection. Instead of extensive pre-planning, information can be searched when needed, decisions are made based on the current context and navigation is facilitated through location positioning and guiding. Effectively, this has enabled a shift away from traditional media and

resources (e.g. map and guidebooks) and pre-travel planning towards the use of mobile devices and applications on-site to allow for more co-created, and especially, more independent, efficient and satisfying tourist experiences.

The post-travel stage is characterised by sharing and reviewing experiences. Of particular interest is that the boundaries of sharing are blurring between the post-travel stage and the during-travel stage, as tourists increasingly share experiences in real-time. The primary change is that tourists want to share their happiness, co-create with other people while experiencing and make other people part of their experiences in real-time. As such, sharing, co-creating and co-living experiences while they are happening, has become an integral part of an agile, connected and socially dense *Technology Enhanced Tourist Experience*. The transformed post-stage is mainly characterised by tourists reminiscing the content posted online, reconstructing experiences and actively reviewing their experiences online. At the same time, ICTs have opened a more intense imagination and dreaming stage, in which tourists start to search for inspiration and initiate the 'forward-planning' process for future travel.

Overall, tourists' greater mobility has induced a shift from static and sequential activity performance towards dynamic and agile activity behaviour, whenever contextual need situations arise. Consequently, it appears that one of the major implications of this study is the de-construction of the linear three-stage travel process. To distil the essence of change, it is posited that traditional pre-travel and post-travel stages gradually shift on-site, creating a compressed and more intense during-travel stage. The pre-travel stage anticipation is extended with long imagination, while the post-travel stage is extended through prolonged storage, memoralisation and possibilities for reconstruction. These assumptions lead to a re-conceptualisation of the traditional three-stage travel process, which proposes five dynamic phases. These include 1) *imagination*, 2) *anticipation*, 3) *realisation*, 4) *revitalisation* and 5) *memoralisation*. Figure 7-5 depicts this new conceptualisation and offers a novel and original understanding of a fluid five-phase model characterising the *Technology Enhanced Tourist Experience*.

Figure 7-5. Technology Enhanced Tourist Experience Phases



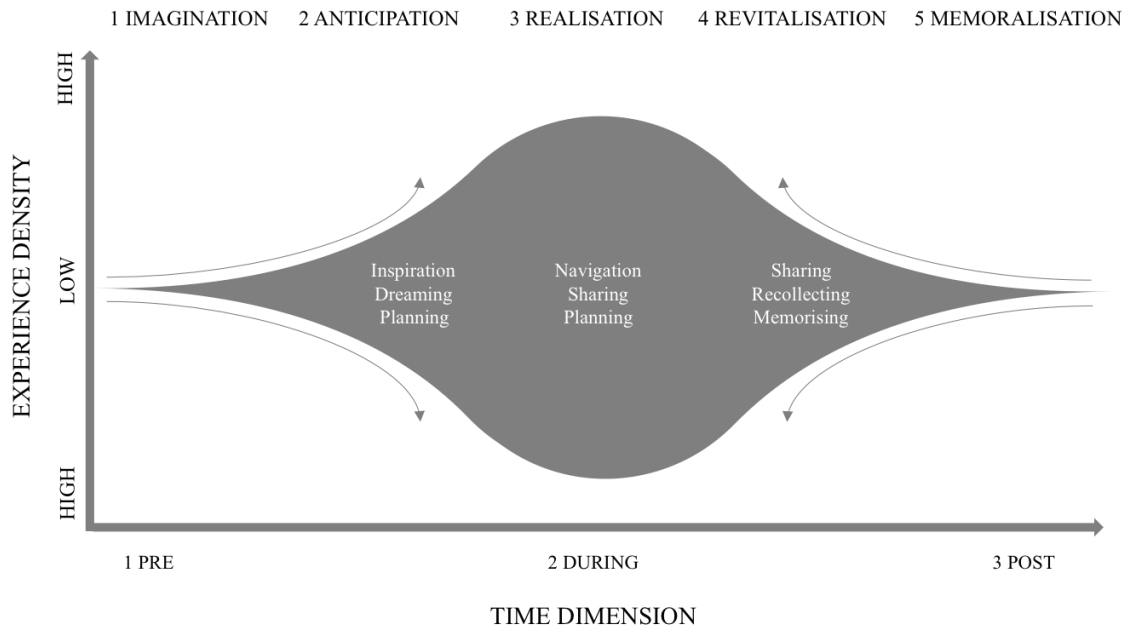
Source: Author

This study posits that a clear distinction between physical travel stages has become obsolete through the integration of technology. This study contributes in proposing a major spatial and temporal change of traditional conceptualisations of the tourist experience. Tourist experience conceptualisations should not be limited to a linear travel stage process. Instead, the *Technology Enhanced Tourist Experience* is conceptualised as:

> *"a dynamic and fluid five-phase process that reflects the spectrum of experiential activities that are facilitated through ICTs whenever needed"*

The re-appraisal of traditional tourist experience stages and the new re-conceptualisation have led to development of a further conceptual model of the *Technology Enhanced Tourist Experience*, which depicts the intensity of these phases. Figure 7-6 shows an intensive 'realisation' phase with two long tails, representing the former pre-travel and post-travel stages, which have become extended phases of imagination and anticipation, and revitalisation and memoralisation, respectively.

Figure 7-6. Long Tail Technology Enhanced Tourist Experience Model



Source: Author

The findings and conceptualisations of this study further contribute in providing major implications on the existing conceptualisations of the tourist experience, such as the notion of escapism from everyday life. Theorists have proclaimed the reversal of everyday life as a main motivation to travel (Cohen, 1979), which was later followed by

the postmodern de-differentiation of these boundaries (Uriely, 2005). This study has major implications on the existing theoretical assumptions portraying the tourist experience as an escapism from and reversal of the everyday life (Cohen, 1979). The findings suggest that a strong connection between the tourist experience and everyday life occurs through ICTs, which is manifested in the desire for social connectedness, co-creation and sharing experiences with the connected network of actors.

Drawing on psychological and motivational theories, scholars (Iso-Ahola, 1982; Mannell and Iso-Ahola, 1987; Oh et al., 2007) have however argued the need of escapism from everyday life. For instance, Turner and Ash (1975) claimed that tourists seek a momentary distance from the usual surrounding to escape the norms and values that dominate everyday life. Essentially escapism serves the important purpose to get away, take a break and return recreated and rejuvenated (Oh et al., 2007). In this vein, tourism is a mode for people to escape their routines and experience something extraordinary (Oh et al., 2007). Cohen (1979, p.181) has captured these assumptions, by arguing that tourists are in quest for novelty and authenticity and "*tourism is essentially a temporary reversal of everyday activities-it is a no-work, no-care, no-thrift situation*".

The findings of this study, however, challenge these assumptions in light of the *Technology Enhanced Tourist Experience*. In contrast to the existing understanding, this study highlights the power of ICTs, which due to their characteristics, have led to the emergence of a connected, social and mobile tourist consumer, who is able to co-create tourist experience on an unprecedented scale. Tourists use ICTs as a means to connect with the everyday life for multiple purposes, as to stay up-to-date, maintain social relations and share experiences in real-time, while these are happening at the destination. ICTs have thus become a catalyst of change that breaks down the hitherto clear boundaries between tourism and everyday life. These findings are consistent with studies claiming that mobile technologies have caused a de-capsulation of the tourist experience in that escape and adventure are reduced because of the connection with the everyday environment (Jansson, 2002).

This study posits that ICTs cause a blurring nature of everyday life and travel. Lash and Urry (1994) critically question whether the blurring of everyday life and tourist might be the 'end of tourism'. While early work has underlined the distinctiveness of tourism from everyday life, Uriely (2005) acknowledges that this distinction has been reduced, due to mass media and technology as a means of mediatisation of the tourist experience

(Jansson, 2002). This study draws upon and builds on the de-differentiated perspectives of tourism and everyday life, which become more interconnected and less distinctive. The findings suggest that ICTs play a key role in facilitating the experience at home without physical travel, especially in the pre-travel phase where imagining, dreaming and anticipating is supported. Through videos and virtual realities the tourist experience becomes mediated and easily accessible in everyday life, eliminating the necessity of physical travel to experience destinations (Jansson, 2002; Uriely, 2005). Subsequently, people can be seen as tourists irrespective of whether they are mobile or simulate mobility at home (Urry, 1990; Lash and Urry, 1994).

Beyond confirming these conceptualisations, the findings suggest the notion that tourists want to experience tourism, seek novel cultures and authenticity, but at the same time want to remain connected to their everyday life at home. ICTs have introduced mediators that have led to a time and space compression and have opened new avenues of travel whether it is corporal, virtual or imaginative (Urry, 2001). This study hence adds to motivational theory of travel, by highlighting the role of social connectedness, sharing and co-creating experiences online, as a more dominant motivational component of contemporary tourist experiences than escapism. This not only implies that the value of escapism has changed. Most importantly, it implies a change in the nature, motivation and construction of the tourist experience and the way contemporary tourists seek to experience travel with ICTs in place.

7.5 *Chapter Summary*

Chapter 7 Theory Development and Discussion had the purpose to bridge the gap in linking the theoretical contributions emerged in this study with previous work in the three literature streams and the wider services marketing and management discipline. First, the holistic theoretical model of the Technology Enhanced Tourist Experience has been developed and discussed as the most significant theoretical contribution of this study. It has added value in that it captured the *Technology Enhanced Tourist Experience* in its full complexity, depicting the embedded phases, contextual factors, ICTs integration, co-creation process, overall twelve factors as well as the outcome factors, characterising it as a distinct type of tourist experience

The second part of the chapter turned its focus to conceptualising integral elements of the *Technology Enhanced Tourist Experience* and discussing these in relation to the

existing literature. The discussion encompassed the conceptualisation of experience co-creation, which advanced current discourses by adding a more differentiated understanding of co-creation types. The twelve factors of the *Technology Enhanced Tourist Experience* were discussed, by comparing the granular elements of the traditional tourist experience with the twelve factors of the *Technology Enhanced Tourist Experience*. A final model of core and peripheral factors was presented.

The last section went on to conceptualise the changed travel stages in light of ICTs enhancement, highlighting the need for a re-conceptualisation of the static travel stages. A fluid five-phase model was proposed to account for the dynamic nature of tourist experiences with ICTs in place. In addition, the discussion of the role of ICTs within the tourist experience has shed light on the need to revise the widely accepted tourist experience assumptions on escapism and the reversal of everyday life. In fact, the emergence of a five-phase fluid tourist experience model challenges existing conceptualisations, as ICTs connect, interlink and break down the barriers between travel and everyday life. The Technology Enhanced Tourist Experience is rather divided into thematic phases and activities related to travel, which can occur at any time in the offline or online world. The final Chapter 8 now turns to summarise the thesis by outlining the achievement of the objectives and depicting the contributions of the study.

CHAPTER 8: CONCLUSIONS AND IMPLICATIONS

The final *Chapter 8* summarises this thesis in that it demonstrates how the research objectives were achieved and how this study makes contributions to theory, practice and management, and the wider business, societal and policy context. The first section systematically outlines how each of the five research objectives has been addressed. The second part discusses the contributions and implications of this study on three main levels. These encompass a) contribution to theory, b) contribution to practice and management and c) the impact and wider implications of this study. Finally, the chapter goes on to reflect on the research limitations, defines a comprehensive agenda with opportunities for further research and concludes with a personal reflection on the PhD journey and final remarks.

8.1 *Achievement of the Research Aim and Objectives*

This study has the overall aim to explore how tourist experiences can be enhanced by ICTs through company-consumer experience co-creation in the pre/during/post stages of the travel process. To address this aim, this study has identified five key objectives, as introduced in Chapter 1.4. This section explains how these objectives were achieved.

8.1.1 RO 1: To explore the changing nature of the tourist experience through ICTs in the pre/during/post stages of the travel process

Research Objective 1 was addressed by identifying the impact of ICTs on the tourist experience and the experience co-creation process in the three stages of travel, in Chapter 2 Literature Review. The first step towards achieving this objective was to review the literature on the tourist experience, experience co-creation and ICTs. Developing a detailed understanding of the role of ICTs in tourism has been critical to grasp how the tourist experience and its creation are evolving. In examining the current developments in the field, this thesis illuminated that two major paradigm shifts are happening that challenge existing conceptualisations of tourist experiences. The insights gathered led to conclude that ICTs are transforming and enhancing the tourist experience in all stages of travel process, i.e. pre/during/post travel. In light of this

evidence, ICTs were conceptualised as a catalyst of change and a key resource that is integrated in the co-creation of enhanced tourist experiences and distinct value.

Through the literature review, this study could develop an integrated understanding and create the conceptual framework of the *Technology Enhanced Tourist Experience*, as shown in Figure 2-12. This framework represents the core contribution of the literature review, in that it amalgamated the three concepts of the tourist experience, experience co-creation and ICTs into one model. Most importantly, it demonstrates the process of how a) the *status quo of the tourist experience changes*, as b) *novel perspectives are integrated*, and c) *a new knowledge outcome*, i.e. the *Technology Enhanced Tourist Experience* is obtained. Finally, the conceptual framework has provided the fundament for this study in guiding the methodological choices and the empirical research. The framework was subsequently revisited and expanded in Chapter 7 for the development of the final theoretical model of the Technology Enhanced Tourist Experience.

8.1.2 RO 2: To identify the granular elements of the tourist experience

The second Research Objective was to identify the granular elements that constitute the tourist experience. Following recent claims in the literature (e.g. Cutler and Carmichael, 2010; Kim et al., 2011), it was posited that a holistic understanding of the tourist experience needs to be gathered. This was done by examining the wide theoretical framework and its inherent dimensions, elements and components to 'get to the bottom' of what elements constitute the tourist experience. To address this objective, an extensive qualitative content analysis (Qual I) of 65 full-length journal articles was conducted. This resulted in the development of a comprehensive theoretical understanding of the tourist experience on its most granular level in Chapter 6.1.

To conceptualise the granular elements, an 'Integrated Model of the Tourist Experience' was created and 15 overall granular tourist experience factors were identified and conceptualised. These factors were illustrated in a comprehensive model entitled 'Granular Elements of the Tourist Experience', shown in Figure 6-2. The developed framework has contributed to a better understanding of the tourist experience concept and has specifically provided the theoretical basis for this study to subsequently understand how the tourist experience can be enhanced by ICTs. As a result, addressing

RO 2 was critical for this thesis to bridge the gap between the existing theory (tourist experience) and the emerging theory (*Technology Enhanced Tourist Experience*).

8.1.3 RO 3: To explore the role of ICTs in enhancing the tourist experience and the experience co-creation process from a two-fold company-consumer perspective

Gaining an understanding of how ICTs are used to enhance experiences and co-creation was the central scope of Research Objective 3. This objective was addressed in Chapters 4 and 5. Based on the assumption that the creation of the tourist experience is a process that occurs conjointly between a company and a consumer, only the exploration of both perspectives has led to a holistic understanding of the phenomenon.

Towards this goal, a case study approach (QUAL II) was adopted to unveil the company perspective. The analysis of a diverse spectrum of tourism case companies was essential to gather evidence and develop a full picture of how companies integrate ICTs to facilitate co-creation and enhance tourist experiences. The findings provided insights into the companies' roles as co-creation actors, the types of ICTs used and the processes of ICTs resource integration. It was of particular interest to uncover that the type of ICTs integrated determines different enhancement processes and the level of experience enhancement and change.

In exploring the second perspective, consumer in-depth interviews (QUAL III) were conducted, which have highlighted the key role of consumers as co-creation actors of the tourist experience. The findings have revealed that co-creation essentially evolves around consumers and their connected network of actors, implying that a significant proportion of co-creation takes place outside the company domain. Tourist consumers use ICTs to connect and create experiences through four types of co-creation processes with companies, consumers, family and friends, and locals.

Having established an understanding of experience co-creation from a two-fold actor perspective, the study has also illuminated the *tourist experience enhancement process* through ICTs, presented in Chapter 5. The findings point to a complex and multi-phase experience enhancement process. A process that is influenced by initial contextual and situational factors and specific tourist experience needs situations, which determine the subsequent resource integration of ICTs. The findings further identified that ICTs are used for a total of ten distinct tourist activities, such as inspiration, booking,

geographical navigation and sharing. The diversity of experience enhancement involved has led to the conceptualisation of four main intensities of ICTs resource integration. Moreover, three different types of enhancement outcomes could be conceptualised, consisting of assistance, enhancement and experience creation. Overall, the knowledge gathered provides a detailed understanding of how ICTs can be used to enhance specific steps, activities and situations, and what prerequisites need to occur for a tourist experience to be enhanced by ICTs.

8.1.4 RO 4: To identify the factors that constitute a Technology Enhanced Tourist Experience

The fourth Research Objective guided this study towards identifying the factors that constitute the *Technology Enhanced Tourist Experience*. This objective was addressed through the findings gathered in Research Phase 3 (QUAL III), which are presented in Chapter sections 6.3 and 6.4. The findings confirm that the 15 granular factors of the tourist experience, identified in Research Phase 1 (Qual I), can also be found in the *Technology Enhanced Tourist Experience*. Beyond this, the results suggest a transformational impact of ICTs on the tourist experience. In fact, it was shown that through the integration of ICTs the granular elements of the tourist experience are either enhanced or diminished, with only a small proportion of factors remaining unaltered.

Beyond assessing change of the granular elements, this thesis has uncovered a total of twelve novel and distinct factors that constitute the true essence of the *Technology Enhanced Tourist Experience*. These include connectedness & closeness, convenience & efficiency, education & information, independence & safety & control, individualisation & personalisation, locality & authenticity & territoriality, novelty & playfulness & companionship, serendipity & unexpectedness, sociality & social engagement, timelessness & memoralisation, timeliness & real-time, ubiquity & unlimitedness. These factors were conceptualised in a model of 'Factors of the Technology Enhanced Tourist Experience', shown in Figure 6-3. Tackling Research Objective 4 has therefore allowed revealing the nature, composition and characteristics of the *Technology Enhanced Tourist Experience*, which represents the core contribution of this study. To build a theoretical bridge between the tourist experience and the new *Technology Enhanced Tourist Experience*, Chapter 7 discussed their relation and contributed with an integrated core and peripheral factor model, depicted in Figure 7-4.

8.1.5 RO 5: To develop a holistic theoretical model of the Technology Enhanced Tourist Experience

This study has addressed its fifth and final Research Objective by developing a holistic model of the *Technology Enhanced Tourist Experience*, shown in Figure 7-1. By building on the foundations of the conceptual framework (Chapter 2, Figure 2-12), and revising it through the integration of the empirical findings (Chapters 4, 5 and 6), a final theoretical model could be created. The new model consists of six distinct levels.

First, it depicts the five fluid tourist experiences stages, encompassing imagination, anticipation, realisation, revitalisation and memoralisation. Second, it shows the contextual and situational factors that determine the tourist experience enhancement process. Third, the model shows the components associated with the ICTs resource integration process before highlighting fourth, the experience co-creation process and its actors. The fifth level depicts the twelve distinct factors that determine this new type of tourist experience, before the sixth and final level illuminates the enhancement and experience outcomes of the *Technology Enhanced Tourist Experience*.

Overall, the model contributes in that it paints a holistic picture of the *Technology Enhanced Tourist Experience* by showing more accurate travel stages, a more differentiated co-creation process, explicit experience factors and experience outcomes. It advances existing conceptualisations as it outlines how a conventional experience can be transformed through ICTs and what overall factors need to be fulfilled in order to create such an experience. This knowledge is not only of great importance for scholars and future academic work in the area, but also for tourism service providers, destinations, governmental institutions and unquestionably consumers themselves.

8.2 *Contributions of the Study*

In addressing the research objectives (section 8.1), several major research gaps, as identified in Chapter 1.2, could be filled. This section first highlights the contributions this study makes to *theory* and to *practice* in the tourism industry specifically and then demonstrates the *impact and implications* this study has on a wider global business, societal and policy level.

8.2.1 Contribution to Theory

One of the core strengths of this study resides in its rich and manifold contribution to theory. In exploring and conceptualising the concept of the *Technology Enhanced Tourist Experience* for the first time, this study contributes to the theoretical advancement of three principal streams, which are: a) the theoretical framework of the tourist experience, b) experience co-creation and c) the field of ICTs. Beyond these areas, the work contributes to the S-D logic and the wider services marketing and management discipline.

8.2.1.1 Contribution to the Theoretical Framework of the Tourist Experience

The most substantial theoretical contribution of this research is the development of a new type of tourist experience: the *Technology Enhanced Tourist Experience*. It adds knowledge to the theoretical framework of the tourist experience by depicting how ICTs are impacting the tourist experience and thus challenging the existing theoretical appraisals of the concept. Based on the emerged contributions, this study has revised and advanced the literature on several levels.

First, it has advanced knowledge by capturing the granular elements of the tourist experience through an extensive qualitative content analysis. This study has addressed a major gap in the literature, the lack of a holistic understanding of the tourist experience, and contributed with the development of the *Tourist Experience Granularity Framework*. This framework provides a comprehensive contribution that maps the complexity of the tourist experience, and identifies its single elements on a most granular level. As such, the study has not only built a theoretical fundament for this work, but has created a valuable basis for future studies requiring to understand the tourist experience at a granular, and at the same time, holistic level.

Second, it has filled a gap by *unifying three literature streams*, i.e. tourist experience, experience co-creation and ICTs within one conceptual framework. While past studies have acknowledged the impact of ICTs on the tourist experience, this study is original in being the first one to identify this phenomenon as a distinguished concept. In doing so, it has interconnected the underlying theories and conceptualised the *Technology Enhanced Tourist Experience* as a distinct type of tourist experience in its own right. Consequently, this work makes its third major original contribution in that it is the first

study to *identify, label, conceptualise and empirically explore* the *Technology Enhanced Tourist Experience*. It contributes by developing several conceptualisations and models that depict a wide range of aspects, including the *technology-enhanced experience co-creation process*, *technology enhancement process*, the *fluid five-phase tourist experience model*, the *Technology Enhanced Tourist Experience factor model* and the *holistic theoretical Technology Enhanced Tourist Experience model.*

Fourth, this study has developed a *holistic landscape-knowledge* of an emerging phenomenon for future research. Its holistic contribution is reflected in a) the integration of all ICTs used in the tourist experience and b) the exploration of the three-stage travel process. While several studies up-to-date have focused on single aspects, such as the use of smartphones or mobile applications (Tussyadiah and Fesenmaier, 2009; Wang et al., 2012), this thesis aimed for an integrated understanding of the spectrum of ICTs used. Building on the numerous insights gained, future studies could choose and expand upon specific aspects worth exploring.

Fifth, this study contributes to previous work by conceptualising the tourist experience as a *fluid five-phase tourist experience model*. With this model it revises conventional, static conceptualisations (Killion, 1992; Craig Smith and French, 1994) that are primarily based on a classification of distinct travel stages. Due to the technology-induced dynamics of the tourist experience, these stages have become blurred and models have become insufficient to capture such contemporary experiences. The new model proposes five fluid phases that thematically characterise the tourist experience, consisting of imagination, anticipation, realisation, revitalisation and memoralisation. As ICTs cause a blend of activities and stages, this study revises tourist experience theory, positing tourism in light of escapism and the reversal of everyday life (Cohen, 1979). The *Technology Enhanced Tourist Experience* reforms escapism, as tourists seek to stay in touch with people, interact, co-create and share experiences online, and seek social connectedness with everyday life as an integral part of their tourist experience.

8.2.1.2 Contribution to Experience Co-Creation Theory

Several theoretical implications for experience co-creation theories unfold. First, this study has contributed to the scientific discourses within services marketing and management by adopting the *service-dominant logic* and *experience co-creation perspective* rather than an experience economy approach. Second, it has applied experience co-creation to the particular context of tourism, in which it has been fairly

scarcely explored and discussed to date (Cabiddu et al., 2013; Chathoth et al., 2013; Prebensen et al., 2013; Rihova et al., 2014). As a result, it makes a third and fourth contribution in that it has explored the concept empirically and has conceptualised co-creation in the context of ICTs. By doing so, it has advanced co-creation discourses in the field of ICTs, in which academic interest has only just started to emerge (Akaka and Vargo, 2014). Within these theoretical contexts, this study adopted a *comprehensive two-fold company-consumer actor perspective* and generated a holistic understanding of co-creation *actors* and *processes* within the *Technology Enhanced Tourist Experience*.

The fifth and most significant contribution towards experience co-creation is the conceptualisation of the *four types of experience co-creation processes*. This model extends the literature in that it goes beyond prevalent company-consumer approaches (Prahalad and Ramaswamy, 2004b) and customer-to-customer co-creation practices (Baron and Harris, 2010; Huang and Hsu, 2010; Rihova et al., 2014). It shows four distinct processes with ICTs in place, including *consumer-company (C2B), consumer-consumer (C2C), consumer-friends (C2F) and consumer-local (C2L) co-creation*.

8.2.1.3 Contribution to ICTs in Tourist Experience and Co-Creation

This study also furthers knowledge in the field of ICTs. Specifically, it explored and conceptualised the role and integration of ICTs as a resource within tourist experiences and experience co-creation. While this work does not expand any technology-related theories per se, knowledge contributions are created to a range of aspects. First, this study contributes to a *holistic understanding of ICTs* within the tourist experience. Previous studies were largely concerned with the impact and use of single technologies in the tourist experience, e.g. social media, mobile technologies, smartphones and videos (Tussyadiah and Fesenmaier, 2009; Gretzel et al., 2011; Wang et al., 2012). This has however provided only a limited and fragmented understanding of the phenomenon while neglecting its full complexity.

The findings of this study are valuable in that they encompass any available ICTs for a more comprehensive understanding of *what specific types of ICTs* are integrated into the tourist experience. Second, this work has shed light on the distinguished *role of ICTs for different need situations and tourist activities*. It proposes that different levels of ICTs integration within tourist experiences occur, based on a) the *technological enablers and barriers* and b) the *situational and contextual factors* the individual tourist encounters.

8.2.1.4 Contribution to S-D Logic and Services Marketing and Management

In advancing the three streams of the literature highlighted above, this thesis contributes not only to tourism research, but offers a wider theoretical significance for the services marketing and management discipline. Specifically, this work advances the S-D logic in that it has developed a differentiated understanding on the multiple actors and processes inherent in experience co-creation. The findings, albeit generated in the context of tourism, are relevant in that they reveal generic actors and processes, in other words *'with whom and how'* consumers specifically seek to co-create through ICTs. By doing so, this study has sought to progress existing S-D logic discourses in addressing the need to "*identify the processes and concretely illustrate how co-creation takes place*" (Frochot and Batat, 2013, p.63).

Second, this study contributes in that it has identified the *specific outcomes* emerging from co-creation processes. S-D logic predominantly focuses on practices and processes of value co-creation, while an understanding of experience and value outcomes are missing to date (Rihova, 2014). This study has sought to address this knowledge gap and has identified the *factors* that determine a Technology Enhanced Tourist Experience and the *individual outcomes* that emerge from these. As a result, this work has opened a broad framework that explains co-creation actors, processes, factors, resource integration as well as outcomes of the *Technology Enhanced Tourist Experience*.

With several experience co-creation contributions at the core of this study, this study posits that an '*experience-dominant logic'* (E-D logic) could be proposed. Beyond the S-D logic, it could offer a valuable premise that centralises the co-creation of experiences and focuses on how actors integrate resources for *experience creation processes and outcomes*. This could be a new lens that could perhaps offer a more adequate frame to host and accommodate experience-led discourses grounded in, and advanced beyond, the principles of the S-D perspective. To conclude this section, Table 8-1 offers a summary of the theoretical contributions this study makes to the literature streams discussed above. It outlines what theoretical gaps have been addressed and what theoretical contribution has been made in each respective literature stream.

Table 8-1. Summary of the Theoretical Contribution

Literature Stream	*Theoretical Gap*	*Theoretical Contribution*
Theoretical Framework Tourist Experience	Fragmented understanding of the tourist experience	Extraction of the granular elements of the tourist experience and development of the Tourist Experience Granularity Framework
	Theoretical gap	Amalgamation of three literature streams tourist experience, experience co-creation and ICTs in one conceptual framework
	Theoretical gap	First study to identify, label, conceptualise and empirically explore the new tourist experience concept, the Technology Enhanced Tourist Experience
	Theoretical gap	Several theoretical models of co-creation, technology enhancement process, twelve factors and holistic model of the Technology Enhanced Tourist Experience
	Single ICTs/travel stages within tourist experience	Development of a holistic knowledge of all ICTs within the tourist experience three-stage travel process
	Static three-stage physical travel process model	Fluid and dynamic five-phase tourist experience model
	Tourist experience theory	Revision: Constant connectedness and co-creation with social actors from everyday life
Experience Co-Creation Theories	Limited understanding	Adoption of the S-D logic and co-creation perspective rather than experience economy perspective
	Theoretical gap	Application of experience co-creation to the contexts of tourism and ICTs and empirical exploration
	Limited understanding	Development of a comprehensive two-fold company-consumer actor perspective for a holistic understanding
	Theoretical gap	Development of two major models, the co-creation model (company perspective) and the four types of co-creation processes (consumer perspective)
ICTs Field	Fragmented understanding of ICTs within experiences	Development of a holistic understanding of ICTs within tourist experience and co-creation
	Limited understanding	Understanding of specific types of ICTs used in co-creation and enhancement of tourist experience
	Limited understanding	Integration of ICTs for tourist needs and activities
	Theoretical gap	ICTs integration based on technological enablers and barriers, and situational and contextual factors
S-D Logic and Services Marketing and Management	Limited understanding	Extension of S-D logic by revealing multiple technology facilitated co-creation actors and processes
	Theoretical gap	Proposition of an experience-dominant logic as a lens to build on S-D logic principles and accommodate experiential co-creation outcomes and processes

Source: Author

8.2.2 Contribution to Practice and Management

Given the increasingly challenging conditions, in which not only businesses but also tourism organisations compete, understanding the implementation of ICTs in experiences is of major importance for successful tourism practice and management (Frochot and Batat, 2013; Morgan et al., 2010; Volo, 2009). Beyond their theoretical relevance, the findings of this study offer several strategic and practical implications for tourism organisations and the wider services marketing and management discipline. Indeed, a new perspective for the creation and management of tourist experiences has been introduced: the *Technology Enhanced Tourist Experience*.

In line with the globalisation trend and society's increasing dependence on technology (Gretzel and Jamal, 2009), the traditional travel process and the tourist experience have changed. Considering that the adoption of ICTs for experience enhancement and co-creation in tourism is still in its infancy, there is great potential for further development. It will thus be paramount for tourism organisations to be at the forefront of emerging technologies in order to take lead in facilitating more compelling experience and value propositions. Only by exploiting the full potential of ICTs, it will be possible to meet and exceed tourists' needs and expectations towards experiences creation. This section highlights four main areas for management, including a) *ICTs facilitation*, b) *experience co-creation*, c) *experience enhancement*, and e) the overall realisation of the *Technology Enhanced Tourist Experience*. Table 8-2 offers an overview of the areas of contribution and the practical actions that can be taken in each field.

Table 8-2. Summary of the Contribution to Practice and Management

Contribution	***Strategic Practical Implications***	***Practical Actions***
ICTs Facilitation	ICTs Prerequisites	- Provide connection, Internet and Wi-Fi and necessary tools - Eliminate ICTs barriers and foster ICTs experience enablers - Facilitate tourists' needs to connect to online services - Facilitate tourists' needs to stay connected with home
	ICTs in the Tourist Experience	- Provide tourists with ICTs resources throughout the three-stage travel process - Facilitate ICTs for tourist need situations and activities - Facilitate pre-travel tools for inspiration and anticipation - Facilitate during-travel environments for tourists to use their own tools or offer them additional tools and services - Facilitate post-travel tools for revitalisation and memoralisation
	ICTs Types	- Facilitate specific ICTs for tourist need situations in travel
Experience Co-Creation	Co-Creation Processes are manifold	- Facilitate C2B, C2C, C2F, C2L co-creation processes by ICTs - Provide stimulating online environments that allow for multiple co-creation actors to come together and engage
	Co-Creation as a Continuous Process	- Co-create with tourist consumers online and offline - Co-create by keeping consumers engaged on a continuous basis beyond immediate tourist experience
Experience Enhancement	Contextual Enhancement	- Understand the role of contextual factors in influencing experience creation and enhancement - Understand individual consumers and facilitate the right resources for experience creation and enhancement
	Facilitation of Needs and Activities	- Facilitate ICTs for specific tourist need triggers, situations and tourist activities
Technology Enhanced Tourist Experience	Facilitation of Factors	- Facilitate the twelve identified factors as key characteristics of a valuable, contemporary tourist experience - Facilitate experience factors based on the contextual and personal needs of tourists
	Effects and Outcomes of Facilitation	- Understand the relation between experience factors and outcomes for business success - Understand the consumer value and business short-term and long-term effects of experience facilitation - Facilitate enhanced experiences for return on investment, bonding, relationships, loyalty and competitive advantage

Source: Author

8.2.2.1 Strategic Implications for ICTs Facilitation

The facilitation of ICTs resources is integral to successful experience enhancement and co-creation on multiple levels. It is important not only to provide the technological prerequisites and develop an environment that allows tourists to use ICTs in the travel process to create enhanced tourist experiences. This effectively means that tourism service providers play a decisive role in 'making or breaking' a potentially technology enhanced experience. While tourists own, use and control a wide range of devices and platforms, it is ultimately the provider in the service context who needs to ensure that the technological capacities are provided for these devices and applications to be used.

For instance, only if tourists can connect to the Internet, online co-creation can take place and experience can be enhanced. In this perspective, offering free Wi-Fi access in hotels, restaurants, airports and major attractions, and reducing existing barriers to the integration of ICTs in the travel process are only a few examples of how service providers could create the basis for a *Technology Enhanced Tourist Experience.* If these prerequisites are fulfilled, crucial benefits for both consumers and business can unfold. Consumers can more effectively connect with tourism service providers and their own network of friends, families and other consumers online. Similarly, businesses can benefit from co-creating with tourists online, not only during experience creation, but in the pre-travel and post-travel stages to create long-lasting relationships.

8.2.2.2 Strategic Implications for Experience Co-Creation

Several strategic implications can be defined for experience co-creation. Given the synergies between ICTs and tourism (Buhalis and Law, 2008), this study suggests the need for tourism providers and services marketing and management to rethink their current experience creation processes. This is particularly important in light of the empowered role of individuals as co-creators and the role of ICTs in facilitating experiences. Traditional mass-oriented approaches of designing, planning and staging experiences *for* consumers need to be revised towards individual, customised, one-to-one and context-based experience creation. Such consumer-centric approaches can be particularly facilitated through ICTs. Based on the findings, providers could implement ICTs to develop experience propositions that allow individuals to become more connected, involved and engaged, not only within the immediate company domain but also with several actors in their network at large.

Most importantly, businesses need to recognise the value of connected consumers. Tourists effectively choose with whom to co-create (businesses, consumers, friends or locals) based on their respective contextual and situational needs. As a result, businesses need to adapt their roles, as they are no longer the main player in the experience creation. Rather, a multitude of interactions happens outside the company domain. Organisations thus needs to revisit the resources they can provide to a) facilitate experience and value creation with the tourist, b) allow the tourist to maximise their own resource integration and c) facilitate tourists' interactions, sharing processes and co-creation with their own connected network.

8.2.2.3 Strategic Implications for Experience Enhancement

The findings also provide an understanding for businesses of how specifically tourist experience enhancement occurs. The key consideration for businesses is that experience enhancement is a highly contextual process. The travel type, the tourist's personality, the travel party and the physical and situational surroundings shape whether or not experience *can* and *will* be enhanced. This implies that the integration of ICTs in the tourist experience is not a standardised process, but is inherently context and situation dependent. In this light it is important to remember that there is not one single type of *Technology Enhanced Tourist Experience*. Rather, a whole spectrum of experiences exists, which are created depending on the contextual factors influencing the individual tourist and the intensity in which ICTs are integrated and used.

This means that businesses should not strive to create 'the one ideal' *Technology Enhanced Tourist Experience*, but rather need to facilitate the *right* type of experience enhancement for the *right* tourist consumer at the *right* time. For instance, a single leisure tourist in a rural environment might have vital needs to find Wi-Fi to connect, retrieve information and navigate in an unknown surrounding. At the same time, a group of friends in an urban destination might decide to use ICTs to share experiences online or experiment with playful augmented reality applications and social gaming. Service providers hence need to identify the type of consumer they deal with and understand their embedded needs and the extent to which ICTs might be integrated. ICTs might be used to merely assist and supplement, or become the dominant element of the tourist experience. Whatever type of enhancement is facilitated, businesses need to make sure to a) put the tourist consumer and his/her needs first, b) understand the contextual needs and c) understand how to facilitate the enhancement of experiences best based on the particularities of the sub-sector and the business.

8.2.2.4 Strategic Implications for the Technology Enhanced Tourist Experience

The findings provide critical implications for the creation, enhancement and management of experiences on a number of levels. This study has revealed twelve distinct factors determining the nature of the *Technology Enhanced Tourist Experience*. Based on this knowledge, service providers can identify a) what particular type of tourist experience they are currently providing and b) how many of the twelve sectors are already facilitated. The detailed understanding of the twelve factors, through thick

descriptions and narratives, can be used to strategically develop and facilitate new tourist experience value propositions, or improve and maximise the existing 'experience factor portfolio' to its full potential. For instance, a tourism destination might provide excellent 'education and information' location based services, while lacking in ICTs facilities that support 'real-time' transport information.

Additionally, the combined knowledge about the core experience factors and the experience outcomes provides tourism businesses with critical tangible insights of why creating a *Technology Enhanced Tourist Experience* is of importance. Why should services providers enhance tourist experience through ICTs? What is the return on investment? These are common questions in the management context. While the consumer's value creation is at the core of experience propositions, it is of equal significance to understand what return on investments will be generated for businesses. Considering the investment of financial and human resources required for building a competitive ICTs infrastructure for co-creation and experience facilitation, it is paramount to understand what short-term and long-term business outcomes can be expected. This study provides insights that the facilitation of a *Technology Enhanced Tourist Experience* is no longer merely optional for tourists. Instead, a successful creation of such experiences can lead to positive financial returns, favourable company and brand image, long-term consumer relationships and loyalty.

Table 8-3 provides a summary of the strategic implications for tourism practice and management. The overview is valuable in that it takes the practical relevance of the suggested implications beyond the tourism industry. It illuminates which of the suggestions could be potentially relevant and applicable for the general services marketing domain as well as the wider business, society and policy level.

Table 8-3. Summary of the Practical Relevance and Wider Impact

Practical Relevance and Wider Impact			
Contribution	**Specific Tourism Industry**	**General Services Marketing**	**Wider Business/ Society/Policy**
ICTs Provision			
ICTs barriers and enablers	x	x	x
ICTs role in experience facilitation for needs and activities in the three-stage travel process	x	x	
ICTs types and roles	x	x	x
Experience Co-Creation			
Four types of co-creation	x	x	
Co-creation offline and online space	x	x	
Experience Enhancement Process			
Contextual factors in enhancement	x	x	
Right experience – right consumer	x	x	
Need triggers, situations and activities	x		
Technology Enhanced Tourist Experience Factors and Outcomes			
Creation 12 experience factors	x	x	x
Relation between factors and strategic practical outcomes	x	x	
Short-term and long-term consumer and business outcomes	x	x	

Source: Author

8.2.3 Impact and Wider Implications of the Study

The wider implications of a doctoral study are of critical importance. In a final reflection on the impact that this study makes, three fundamental questions were asked. "Why does this study matter?" "How does it make an impact on a bigger scale?" and in a further vein, "What relevance does this study hold for the future?" To address these questions, the subsequent sections highlight the impact of this research by considering the a) *global business context*, b) *societal level*, c) *policy and governmental level*, and concluding with d) an *outlook on the key challenges and implications for the future*.

8.2.3.1 Global Business Impact and Relevance to Wider Contexts

The theoretical and practical contributions of this work have not only immediate relevance to the tourism industry and its sub-sectors, but could potentially be considered as applicable in the wider services marketing and global business domain. The findings seem to have implications for several sub-sectors of the tourism industry, including the travel, leisure, hospitality, airline, destination and event sector. Businesses can apply the emerged knowledge to adopt ICTs and facilitate enhanced and co-created experiences at every stage of the travel process. Beyond tourism, the study's findings could be relevant to any experience-driven sector, in which the creation of valuable, co-created and

satisfactory customer experiences plays a role. Thus, the findings could be useful in global business contexts of the entertainment industry, retail sector, transport sector and education sector. The global market place is rapidly changing in the way businesses in any service sector interact, engage and create value with their consumers. As a result, those businesses that are at the forefront of experience creation and take advantage of the synergies between ICTs, consumer empowerment and co-creation, will be able to create long-term competitive advantage and business growth.

8.2.3.2 Societal Impact

This study poses not only critical implications for business and management, but also attempts to make a wider contribution on the societal level. The use of ICTs has become pervasive in the context of travel as it has in many everyday activities. The insights of this study could thus provide a better understanding of how the benefits of ICTs use shape everyday life behaviours through social connectedness, mobile decision-making and real-time connectivity, communication and planning behaviour.

In this light, critical implications could unfold not only for smart tourism, but smart cities and smart living on a larger scale. This study has demonstrated the importance of ICTs integration in allowing for the connection, interaction and co-creation between multiple actors and stakeholders. With unobtrusive technologies becoming available (e.g. Google Glass), the rise of smarter, more convenient and connected cities, transport architectures and homes is only a matter of time. As such, the findings of this study could offer valuable insights to explain some of the latent behavioural trends of ICTs implementation and use. The identified consumer desires for social connectedness, ubiquity, timeliness, convenience, independence and personalisation emerged in this research could be seen as indicative of on-going and evolving societal changes.

This study could also have significant implications for the educational domain. The education sector increasingly seeks new modes to innovate the ways in which knowledge is facilitated and information is exchanged. With the rise of technology enhanced learning and massive open online courses, the implementation of ICTs can be expected to increase further. The findings could thus provide implications of how the integration of ICTs as well as B2C and C2C co-creation could revolutionise and enhance the education sector. The availability of open access information, user (student)-content generation in learning, dissemination and exchange of knowledge,

collaborative connected learning and co-created learning experiences are only some of the scenarios, which we might witness to unfold increasingly in the future.

Having explored tourist consumer need situations and desirable aspects of technology enhanced experiences, critical implications also emerge for the design and development of ICTs. In fostering consumer-centric design principles, the findings can provide knowledge on the needs of the contemporary connected consumers and the functionalities that need to be developed to address these. Moreover, the experience barriers identified (e.g. hardware, software and telecommunications issues) provide further insights into some of the key issues that need to be tackled from a technological perspective. For instance, the problem of carrying multiple devices for different needs could lead to the development of all-in-one and wearable devices, which integrate all parts of a consumer's life and contribute to gradually becoming a connected society.

8.2.3.3 Impact on a Policy and Governmental Level

In reflecting on the bigger impact of this study on a wider policy and governmental level, a number of key implications can be highlighted. For policy makers, the findings suggest that resource facilitation will become a central concern to be addressed in tourism and service sectors over the years to come. Resource and infrastructure provision of technologies will potentially determine the success of businesses and tourism destinations as well as their ability to establish competitiveness. This is because services providers (e.g. hotels and restaurants) are only partially able to facilitate a full consumer experience. Most importantly however, firms depend on policy makers to provide the necessary environmental framework, including infrastructural resources and facilities (e.g. city-wide Wi-Fi) to make service and experience facilitation happen.

For instance, while destinations might provide Wi-Fi in public places and hoteliers might provide an eConcierge and online booking tools, it is only through a coordinated public policy and planning that successful experience management on a wider destination level can be established. As destinations are an amalgam of different providers, one of the core challenges constitutes to integrate all resources and actors to ensure a consistent availability of technology and support on a destination level. Only by making sure that technological prerequisites are in place, e.g. network functionality, mobile phone signal reception and free Wi-Fi, a technology enhanced experience can be facilitated. It is thus the network of policy makers, who through their joint resource integration, play a decisive role in enabling tourist experience creation effectively.

On a wider governmental level, decision-makers can influence laws, policies and regulations that determine the availability of networks and telecommunication. One of the currently most critical issues in this respect is the abolishment of international roaming charges. This has emerged as a pressing concern in this study, which particularly affects international tourism and tourists, who need and want, respectively, to use their mobile devices abroad. International roaming and the lack of Internet connection, public and free Wi-Fi constituted one of the most far-reaching barriers identified that hinders a successful experience facilitation. As a result, a collaborative effort of stakeholders is paramount to eliminate these barriers not only in the interest of tourism destinations and businesses but also the wider society.

8.2.3.4 Outlook into the Future

To conclude the impact of the study, an outlook of predicted key developments, challenges and opportunities for the future is provided. The development of the *Technology Enhanced Tourist Experience* has offered critical knowledge for companies of how to use ICTs to strategically innovate and enhance the tourist experience. Over the coming years, emerging technologies together with the dynamic transformational processes in society will allow for new opportunities in experience creation. Technological innovations, such as augmented reality, wearable technologies, real-time connectivity, context based services, big data, smart tourism and social gaming will represent some of the key drivers of near-future consumer and tourist experiences. All of these factors render the evolution of, and in turn the research on, tourist experiences far from complete, but an on-going endeavour.

8.3 *Limitations of the Study*

As an essential part of any research endeavour, the critical reflection upon the limitations of this study was paramount. Specific limitations relating to the reliability and validity and the methodological approach were discussed in detail in Chapter 3.7. This section seeks to present wider reflections on the limitations of the research process and the overall scope of the study. The limitations are structured into three main areas, including a) the qualitative enquiry, b) ICTs considerations and c) time constraints. In the subsequent section, an agenda for further research is defined with the goal to address some of the limitations of this study.

Scope and Limitations of the Qualitative Enquiry

Due to the novelty of the subject and the need to explore the Technology Enhanced Tourist Experience for the first time, a qualitative enquiry was chosen over a quantitative approach. A quantitative research design could perhaps have enabled a more rigid approach and allowed for statistical testing of emerging constructs. Given the comprehensiveness of the qualitative approach adopted, this was however beyond the scope of the study. Rather than adopting a classic mixed methods strategy with a qualitative and quantitative component, a holistic qualitative enquiry was deemed as more valuable to allow for a rich and profound knowledge contribution. To strengthen the qualitative work, the notions of confirmability and credibility, validity and trustworthiness as well as transferability were considered and implemented.

It is posited that qualitative research does not make any claims of generalisability to the wider population, for which reason the findings should be interpreted with the necessary caution. Due to the purposive sampling strategy and the limited sample size inherent in the qualitative multiple case study and consumer in-depth interviews, the generalisability can be considered limited. Rather, the 'generalisability' of the findings should be considered with respect to the *analytical generalisation* to theory and the *transferability* to similar contexts and comparable situations. Due to the comparability of the consumer participant profile with the characteristics of 'early technology adopters' (Rogers, 2003), the findings might be, to some extent, understood as representative of this segment within the wider population. The detailed and thick descriptions of the case studies and the participant narratives should further help scholars to evaluate whether and if, to what extent, the findings might be transferable. As such, transferability might be given in that the findings are applicable to early adopter consumer profiles as well as experiential settings in specific sub-sectors of the tourism industry and comparable services marketing and management contexts at large.

Scope and Limitations of ICTs Considerations

Several limitations are considered with respect to the scope of ICTs in this study. One arguable limitation regards the lack of non-technology using participants within the sample. An important concern for this research was to adopt a purposive sampling strategy to identify and get access to technology-savvy participants. Only those participants with past experience of ICTs usage could provide recollections of their

personal technology enhanced experiences. While this might be considered a limitation, it was beyond the scope of the study to explore generic technology adoption and reason for non-adoption of ICTs within the tourist experience. The sample profile of technology-savvy consumers might be considered as early and heavy adopters of technology. The findings of this research could thus be regarded as indicative of mainstream technology adoption and how current non-adopters might use ICTs within their tourist experiences in the future.

The particular focus in this study was on developing an in-depth understanding of how tourist consumers integrate ICTs as resources to enhance their tourist experiences. This research was thus primarily interested in exploring the positive enhancement of tourist experiences. By doing so, the exploration and analysis of an emerging negative impact of ICTs on the tourist experience has only been given marginal relevance. As it is an interesting topic beyond the scope of the study, it could represent an aspect that is worth exploring in further research.

Scope and Limitations of Time Constraints

The overall time constraint of this research can be acknowledged as a final limitation. While undertaking research in the frame of a three-year PhD studentship allows for sufficient comprehensiveness and scope, the available time for the empirical enquiry is limited, resulting in the need to conduct a cross-sectional, rather than a longitudinal study. Beyond these generic limitations, the particularities of this study, being embedded in the field of ICTs, required the study to be conducted in a timely manner. Only by doing so, it was possible to address the dynamic pace of change and the rapid emergence of new technologies to allow for a meaningful theoretical and practical knowledge contribution.

8.4 *Agenda for Further Research*

The new knowledge foundations developed in this study as well as its limitations can inspire and inform a comprehensive agenda for further research. In providing the first conceptualisation and empirical exploration of the new concept, the *Technology Enhanced Tourist Experience*, this work hopes to have built a theoretical basis that stimulates further avenues in a new and dynamically evolving area of research. An agenda is therefore set out to encourage scholars to build upon and expand on the

findings of this thesis. Emerging from this study, two concrete directions for further research are defined, which encompass a) the *expansion* of knowledge developed in this study and b) the *exploration* of new aspects identified in this work.

Expansion of new theoretical contributions

Future research could build on this thesis in extending the theoretical contribution highlighting four distinct types of *experience co-creation* (C2B, C2C, C2F and C2L) in the field of tourism and ICTs. In expanding on the role of the consumer, research could adopt an actor-to-actor lens to empirically explore the wider actors (consumers, friends, families and locals) and their specific roles in experience and value co-creation processes and practices. In this context, ICTs will continue to play an instrumental role in enabling and opening new opportunities for tourists to connect, engage and co-create.

Particularly the concept of *consumer-to-local* (C2L) co-creation offers potential for further research, which could explore the interplay between technology, co-creation and the notion of authenticity within these practices. An additional key aspect worth exploring is the idea of '*experience co-participating and co-living*', manifested in *consumer-to-friends-family* (C2F) co-creation processes. Research in this area could uncover the interrelations between the tourist and the connected people at home. This might lead to interesting new insights into the effect of socially shared experiences on tourist activities, such as dynamic and collaborative inspiration, decision-making and co-created travel planning on-site. In a similar vein, the notion of social connectedness could be investigated by revisiting tourist experience theories, which suggest the desire to escape and reverse everyday life. Particularly, an in-depth exploration into the motivational forces of tourism in light of '*connecting versus disconnecting*' in an age of technology could advance the theoretical grounds of the tourist experience.

Building on the foundations of this work, studies could also explore the synergies between *physical and virtual co-creation spaces*, in which tourism organisations and stakeholders operate with consumers. This could not only lead to a better understanding of how service providers can maximise co-creation among themselves, but also how to facilitate an environment that allows for enhanced experience co-creation and value propositions for tourist consumers. The theoretical contributions of this study could also provide a foundation to apply and advance the conceptualisations in the emerging service science (Maglio and Spohrer, 2008). While this study adopted a S-D logic lens

of experience co-creation with services marketing and management, future research could use the concept of the service (eco)system (Wieland et al., 2012) as a theoretical basis to examine ICTs resource integration for experience and value co-creation within dynamically connected service systems (Maglio and Spohrer, 2008).

To build upon and complement the qualitative findings of this research, quantitative studies are recommended to develop a measurement construct that allows testing some of the findings on a larger scale. In particular, the four types of experience co-creation and the twelve factors of the *Technology Enhanced Tourist Experience* could be confirmed through a factor analysis. A measurement scale could validate such constructs and offer an effective tool for experience creation and management in practice. Quantitative regression analysis could also be useful to test how the situational factors (e.g. contextual factors and tourist needs) correlate with the twelve factors of the Technology Enhanced Tourist Experience and specific experience outcome factors (e.g. satisfaction, WoM, behavioural intention).

Exploration of emerging aspects

While *detrimental and diminishing effects of ICTs* on the tourist experience were largely beyond the scope of the study, an interesting domain for research was opened. In particular, the notion of experience diminishment through ICTs, such as addiction and pressure, information overload, temporary place detachment and social interference were only some of the emerging aspects that could be worth exploring in future studies. An additional intriguing question could be to understand what triggers consumers and tourists to disconnect. The high use and overuse of ICTs in the daily life and the need to disconnect from work stress were only two aspects identified, which could open a research area of growing importance.

Understanding *ICTs disconnection within tourist experiences* could entail critical implications for services marketing and management as well as tourism destination and hospitality operations, specialised in digital detox and non-technology retreats. It could also potentially create an emerging counter-trend to technology, not only within society but also in research that stands in sharp contrast to the connected *Technology Enhanced Tourist Experience* in the years to come. In the opposing vein, technology will continue to merit and require further investigation. Due to the dynamic progress of ICTs, major developments in the mobile context, and especially in the wearable technology sector,

can be expected in the near future. Continuous research is needed to capture emerging ICTs and understand their potential role in facilitating and enhancing experiences. Such knowledge is crucial for services marketing and management to facilitate ICTs as resources and remain at the forefront of competitive experience creation. While many questions undoubtedly will remain open, this study hopes to have provided some useful recommendations that could stimulate and encourage further research avenues within the arena of the *Technology Enhanced Tourist Experience* and beyond.

8.5 *Personal Reflection*

> "*Reflective practice is something more than thoughtful practice. It is that form of practice that seeks to problematise many situations of professional performance so that they can become potential learning situations and so the practitioners can continue to learn, grow and develop in and through practice*" (Jarvis, 1992, p.180).

It is in this vein that I would like to look back and evaluate the extraordinary experience that has been writing this doctoral thesis. In my journey as a researcher, reflective thinking was a central practice to discover not only my strengths but also my weaknesses. In this penultimate section of this thesis, I would therefore like to share some of the most important considerations and thoughts that guided my endeavour as a researcher and offer a brief reflection on the outcomes of this journey.

My PhD journey over the last three years was an intriguing, fascinating and enjoyable, while at the same time highly intellectually and mentally challenging and demanding one. I bounced into this adventure following its intensive but enriching path and explored theories, arguments, methods and tools with passion and dedication. With a clear topic set out from the beginning and the initial literature review highlighting the key issues in the field, the focus of the study was determined fairly early in the process.

While the initial months were critical to shape the topic, first conceptualisations and methodological considerations followed soon. With these developments, the interest in publishing work emerged from the early beginning and continued to represent an integral part of my entire PhD journey. The publishing process was extremely valuable to me in that it did not only clarify my writing and enhance my conceptual thinking, but also allowed me as a researcher to disseminate emerging work, validate it through critical peer reviews and share it with the wider research community.

In the PhD process I also encountered several decision-making milestones along the way that primarily evolved around the research design and the scope of the study. One of the undoubtedly most challenging decisions was to limit the scope of the study to a focused topic, while neglecting specific aspects that would have been intriguing to explore. In this vein, the initial idea of conducting a qualitative exploratory study with a subsequent quantitative element had to be refused in light of tackling a new and extremely comprehensive topic and thus, enabling a high-quality in-depth qualitative approach. Only by doing so, a holistic knowledge contribution of the *Technology Enhanced Tourist Experience* could be achieved, which shall open numerous avenues for further research succeeding this work.

A further critical milestone of this study represented the examination of the literature on the tourist experience, which revealed a high level of complexity and at the same time a lack of a theoretical framework defining the factors that constitute the tourist experience. In light of this knowledge gap, it became clear that an intensified analysis of the literature was necessary to extract the granular elements that compose the concept, before being able to explore how ICTs would enhance the tourist experience. Additionally, methodological considerations formed a critical part of the philosophical thinking process as to identify the overall research paradigm of this study. While as a researcher I am generally favourable towards the adoption of purist paradigms guiding research, it was decided that pragmatism was the most suitable paradigm to guide the combination of methods necessary to address the objectives of this study.

In reflecting on the researcher's role in the research process, my own stance, knowledge, beliefs and values had to be critically reviewed. Working in the eTourism field and having a favourable attitude towards technology, it was essential to develop an early awareness of my own stance in order to avoid bias and develop an objective position in the process. Moreover, in exploring technology-savvy companies and consumers my previous thinking was challenged. I came to realise that the *Technology Enhanced Tourist Experience* is on the cutting-edge of research and recognised that it might take several years to find its full realisation within industries and wider society.

Reflecting on some of the challenges of this PhD journey, one of the most demanding but also most exciting tasks was encountered at conference presentations. Presenting my emerging research in front of expert audiences was a great way to allow for knowledge exchange and stimulate discussion on the subject. While the research received high

interest and thoroughly positive feedback in many cases, its position was challenged by recurring questions relating to the diminishing effect of ICTs on experiences, the need for escapism and the limited use of ICTs within specific socio-demographic groups and the wider population. While at times difficult to address, these highly intriguing questions were upmost beneficial to my thinking and reflection process. They not only allowed me to reflect on my own views and encouraged me to maintain a balanced and objective stance towards ICTs, but also enabled me to deepen the rationale and reaffirm aspects that lie *within* and *beyond* the particular scope of my study.

One of the main challenges internal to the PhD process was the highly intense qualitative research process, which led to the emergence of an extremely rich amount of data. Due to the importance placed on the thoroughness of the analysis, coding on a micro-level was a very time intensive, demanding and challenging process. Only when doing the analysis, I came to learn and appreciate the wide skillset that was required, not only to conduct the micro-coding, but advance the conceptual thinking, while maintaining an overview and sufficient distance to the data at the same time. In retrospect, it was a highly beneficial process that enabled me to develop extensive skills of interviewing, questioning, probing, typing, coding and thematic structuring, which were valuable for both my personal and academic development as a skilled researcher.

Overall, I would like to conclude that doing my PhD was an extremely rewarding journey, characterised by an extraordinary amount of personal and professional highlights. Throughout these three years, I have been able to improve my abilities and develop the skills I need in academia, and most imporantly, in life. I have not only learned how to research, collect and analyse data, and overcome the related challenges and hurdles, but have developed as an academic, who actively participates and contributes to Bournemouth University and the research community at large. The number of academic activities, conferences and publications (Appendices 12 and 13) have allowed me to advance my knowledge, contribute my own work and develop a network of most valued research colleagues and friends around the world.

8.6 *Final Remarks*

At the beginning of this doctoral study, a shift of tourist experiences towards increasing technology facilitation started to emerge. However, a clear and, most importantly, holistic understanding of the phenomenon was missing, which inspired this study to depart on a journey to explore the concept of the *Technology Enhanced Tourist Experience*.

Being the first study to define, capture and explore this particular concept, it has been an intriguing process to amalgamate the theoretical fragments in a puzzle to develop a new understanding towards the theoretical contribution of the *Technology Enhanced Tourist Experience*. Exploring a cutting-edge research subject, which in 2011 was only at the verge of emergence, was a highly challenging endeavour, sometimes seemingly running against time. With ICTs being embedded in a highly dynamically and often rapidly progressing field, the notion of exploring tourist experiences and ICTs seemed to have accelerated received interest by many scholars in the field. Emerging studies have thus continuously challenged and sometimes re-defined the knowledge landscape and boundaries of this study. This implied not only the need for constant re-assessment of changing and diminishing theoretical gaps but also the need to accommodate and integrate the latest work in the field.

The final theoretical contribution of this study, the *Technology Enhanced Tourist Experience*, presents a holistic concept of a new type of tourist experience. Embedded within the wider services marketing and management discipline, it is hoped that this cutting-edge research has not only addressed a number of major research gaps and extensively contributed to the literature, but will provide the knowledge foundation and inspire research avenues to further advance the understanding of *Technology Enhanced Tourist Experience* in the future.

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APPENDICES

Appendix 1: Data Collection Schedule

The data collection schedules of Research Phases 1, 2 and 3 are presented below.

Research Phase 1: Qualitative Content Analysis Data Collection			
Nr.	***Journal Articles***	***Data Collection Date***	***Location***
65	Full peer-reviewed journal articles	April-October 2012	Bournemouth, UK

Research Phase 2: Qualitative Multiple Case Study Data Collection			
Nr.	***Case Study Company***	***Data Collection Date***	***Location***
1	PixMeAway, AT	18 May 2012	London, UK
2	Inamo Restaurant, UK	18 May 2012	London, UK
3	VisitBritain, UK	18 May 2012	London, UK
4	Hotel Lugano Dante, CH	18 May 2012	London, UK
5	Sol Melia, Hotels, UK	18 May 2012	London, UK

Research Phase 3: Qualitative Semi-Structured In-Depth Interviews Data Collection			
Nr.	***Participant***	***Data Collection Date***	***Location***
1	Laura	22 April 2013	Bournemouth, UK
2	Jane	24 April 2013	Bournemouth, UK
3	Martha	26 April 2013	Bournemouth, UK
4	Veronica	25 April 2013	Bournemouth, UK
5	Sam	1 May 2013	Bournemouth, UK
6	Paul	2 May 2013	Bournemouth, UK
7	John	25 April 2013	Bournemouth, UK
8	Sandra	27 April 2013	Bournemouth, UK
9	Teresa	29 April 2013	Bournemouth, UK
10	Andrew	3 May 2013	Bournemouth, UK
11	Dan	2 May 2013	Bournemouth, UK
12	Aaron	30 April 2013	Bournemouth, UK
13	Steve	3 May 2013	Bournemouth, UK
14	Rachel	3 May 2013	Bournemouth, UK
15	Hanna	3 May 2013	Bournemouth, UK

Appendix 2: Ethics Form and Risk Assessment

Initial Research Ethics Checklist

Note: ***All researchers*** must complete this brief checklist to identify any ethical issues associated with their research. Before completing, please refer to the BU *Research Ethics Code of Practice* which can be found at www.bournemouth.ac.uk/researchethics. Project Supervisors or School Research Ethics Representatives can advise on appropriate professional judgement in this review. A list of Representatives can be found at the aforementioned webpage. **Sections 1-5 must be completed by the researcher and Section 6 by the Project Supervisor or School Ethics Representative prior to the commencement of any research.** Approved ethics checklists should be submitted in accordance with the school-specific ethics process and will be stored for audit purposes. Students should also retain a copy for inclusion in their dissertation, which will be checked to ensure that it complies with any ethical constraints identified on the ethics checklist. Please refer to erss.bournemouth.ac.uk/researchsupport/bids/writing/processes.html for school-specific processes.

1 RESEARCHER DETAILS						
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Degree Framework & Programme	**PhD Programme School of Tourism / John Kent Institute in Tourism**					
2 PROJECT DETAILS						
Project Title	**Technology Enhanced Tourist Experiences: a holistic exploration of how technology can enhance tourist experiences**					
Project Summary ***Sufficient detail is needed; include methodology, sample, outcomes etc***	The notion of creating unique and memorable experiences for consumers constitutes a prevalent concept in the tourism industry. However, two major shifts are significantly changing the theoretical framework of the tourist experience. Experiences are transforming as a) consumers are increasingly empowered to co-create their own experiences and b) information and communication technologies (ICTs) are implemented as a catalyst of change enhancing the tourist experience. Despite the amount of literature recognising these impacts, challenging the current nature and understanding of the tourist experience, there is evidence for a major lack in understanding, conceptualisation and empirical exploration of this change. Therefore, this doctoral study aims to fill these gaps by considering these advances and conflating the hitherto separate theoretical streams of the tourist experience, co-creation theory and ICTs to conceptualise and develop a holistic understanding of a new type of experience, the Technology Enhanced Tourist Experience. In order to do so, this doctoral study aims to explore how the tourist experience can be enhanced by information and communication technologies through consumer-company experience co-creation throughout all stages, i.e. pre/during/post phases, of the travel process. A qualitative mixed methods strategy is adopted comprising three major sequential phases of research, including a) a systematic qualitative content analysis of journal articles to identify the granularities of the tourist experience, b) a multiple case study to understand the process of how experiences can be enhanced through ICTs from a company perspective, and c) semi-structured in-depth interviews to understand this process from a consumer perspective. This three-fold combination of qualitative methods is essential to triangulate data, explore all critical elements of this study and to allow developing a holistic theoretical understanding of the Technology Enhanced Tourist Experience. The sample for the case study consists of best practice companies of the hospitality and tourism industry realising innovative experiences, which are selected by means of purposive sampling. The sample for the semi-structured in-depth interviews consists of technology-savvy consumers with the prerequisite of having undergone such experiences and are selected by means of purposive sampling.					
Proposed Start & End Dates	**03/10/2011 – 02/10/2014**					

Project Supervisor	**Prof. Dimitrios Buhalis** **Prof. Adele Ladkin**		
Framework Project Co-ordinator			
3 ETHICS REVIEW CHECKLIST – PART A			
I	Is approval from an external Research Ethics Committee (e.g. Local Research Ethics Committee (REC), NHS REC) required/sought?	☐ **Yes**	☒ **No**
II	Is the research solely literature-based?	☐ **Yes**	☒ **No**
III	Does the research involve the use of any dangerous substances, including radioactive materials?	☐ **Yes**	☒ **No**
IV	Does the research involve the use of any potentially dangerous equipment?	☐ **Yes**	☒ **No**
V	Could conflicts of interest arise between the source of funding and the potential outcomes of the research? (see section 8 of BU Research Ethics Code of Practice).	☐ **Yes**	☒ **No**
VI	Is it likely that the research will put any of the following at risk: Living creatures? Stakeholders? Researchers? Participants? The environment? The economy?	☐ **Yes** ☐ **Yes** ☐ **Yes** ☐ **Yes** ☐ **Yes** ☐ **Yes**	☒ **No** ☒ **No** ☒ **No** ☒ **No** ☒ **No** ☒ **No**
VII	Does the research involve experimentation on any of the following: Animals? Animal tissues? Human tissues (including blood, fluid, skin, cell lines)? Genetically modified organisms?	☐ **Yes** ☐ **Yes** ☐ **Yes** ☐ **Yes**	☒ **No** ☒ **No** ☒ **No** ☒ **No**
VIII	Will the research involve prolonged or repetitive testing?	☐ **Yes**	☒ **No**
IX	Will the research involve the collection of audio, photographic or video materials?	☒ **Yes**	☐ **No**
X	Could the research induce psychological stress or anxiety, cause harm or have negative consequences for the participants or researcher (beyond the risks encountered in normal life)?	☐ **Yes**	☒ **No**
XI	Will the study involve discussion of sensitive topics (e.g. sexual activity, drug use, criminal activity)?	☐ **Yes**	☒ **No**
XII	Will financial inducements be offered (other than reasonable expenses/ compensation for time)?	☐ **Yes**	☒ **No**
XIII	Will it be necessary for the participants to take part in the study without their knowledge / consent at the time?	☐ **Yes**	☒ **No**
XIV	Are there problems with the participant's right to remain anonymous?	☐ **Yes**	☒ **No**
XV	Does the research *specifically* involve participants who may be vulnerable?	☐ **Yes**	☒ **No**
XVI	Might the research involve participants who may lack the capacity to decide or to give informed consent to their involvement?	☐ **Yes**	☒ **No**
4 ETHICS REVIEW CHECKLIST – PART B			
Please give a summary of the ethical issues and any action that will be taken to address these.			

Ethical Issue:	**Action:**
Considering the comprehensive data collection of this study, possible ethical issues as well as health and safety were taken into consideration. In the context of this study, these issues can generally be estimated as relatively low. The following ethical issues have been considered in detail and corresponding action points have been defined: 1) Ensure privacy and confidentiality of interviewees 2) Provide participants with sufficient information prior to their participation 3) Consider issues of privacy in the physical case study site 4) Ensure privacy when taking photographic material at the case study sites 5) Protect personal data, full anonymity and confidentiality 6) Ensure personal health and safety of the researcher	1) Informed consent will be obtained from both the case study participants (companies) prior to undertaking the observation on-site and conducting the interview and consent will be obtained from interviewees (consumers) prior to participating in the interview. 2) Information will be provided about the nature and purpose of the study, the possibility to withdraw at any time, estimated length of the interview and that anonymity will be provided. 3) For the observation in the physical study environment, considerations for privacy will be followed. Participant observation will be conducted in a non-disruptive and intrusive way. 4) Photographs in the experience context will be taken to graphically support the observed. These will be taken with care as not to reveal the identity of individuals in the environment (hotel, restaurant, destination etc.) 5) To protect personal data, full anonymity as well as confidentiality, pseudonyms instead of real names in the transcription of the audio recordings will be used. 6) Personal health and safety of the researcher will be ensured all the time and interviews and observations will be undertaken in public and safe locations.

5 RESEARCHER STATEMENT			
I believe the information I have given is correct. I have read and understood the BU Research Ethics Code of Practice, discussed relevant insurance issues, performed a health & safety evaluation/ risk assessment and discussed any issues/ concerns with the Project Supervisor / School Ethics Representative. I understand that if any substantial changes are made to the research (including methodology, sample etc), then I must notify the Project Supervisor / School Research Ethics Representative and may need to submit a revised Initial Research Ethics Checklist. By submitting this form electronically I am confirming the information is accurate to my best knowledge.			
Signed	**Barbara Neuhofer**	**Date**	**28/01/2013**

6 AFFIRMATION BY PROJECT SUPERVISOR OR SCHOOL RESEARCH ETHICS REPRESENTATIVE *Where there is a potential conflict of interest seek advice from the School Ethics Representative.*		
Satisfied with the accuracy of the research project ethical statement, I believe that the appropriate action is:		
The research project proceeds in its present form	☒ **Yes**	☐ **No**
The research project proposal needs further assessment under the School Ethics procedure*	☐ **Yes**	☒ **No**
The research project needs to be returned to the applicant for modification prior to further action*	☐ **Yes**	☒ **No**
** The School is reminded that it is their responsibility to ensure that no project proceeds without appropriate assessment of ethical issues, which is a stipulated requirement of the University's insurers. In extreme cases, this can require processing by the School or University's Research Ethics Committee or by relevant external bodies.*		
Reviewer Signature	Sean Bear	**Date** **30/01/2013**
Additional Comments *Identify any project specific ethical constraints that need to be monitored and observed throughout the project.*		
I have done so and retrospectively see no problems with research. I say retrospectively because the start and end dates were agreed as 03/10/2011-02/10/2014. Some pilot study data has been collected but main data collection is just due to start.		

Appendix 3: Phase 1: List of Journal Articles Content Analysis

Articles for Content Analysis	
Nr.	**Author(s)_Year_Title**
1	Aho_2001_Towards a general theory of touristic experiences: Modelling experience process in tourism
2	Andersson and Mossberg_2004_The dining experience do restaurants satisfy customer needs?
3	Andersson_2007_The tourist in the experience economy
4	Arnould and Price_1993_Rivermagic extraordinary experience and the extended services encounter
5	Beeho and Prentice_1997_Conceptualizing the experiences of heritage tourists: A case study of New Lanark World Heritage Village
6	Binkhorst and Den Dekker_2009_Agenda for co-creation tourism experience research
7	Botterill and Crompton_1996_Two case studies exploring the nature of the tourist's experience
8	Carmichael_2005_ Understanding the wine tourism experience for winery visitors in the Niagara region, Ontario, Canada
9	Chen and Chen_2010_Experience quality, perceived value, satisfaction and behavioral intentions for heritage tourists
10	Chhetri et al._2004_Determining hiking experiences in nature-based tourist destinations
11	Cohen and Ben-Nun_2008_The important dimensions of wine tourism experience from potential visitors perception
12	Cohen_1979_A phenomenology of tourist experiences
13	Cole and Scott_2004_Examining the mediating role of experience quality in a model of tourist experiences
14	Corfu and Kastenholz_2005_The opportunities and limitations of the internet in providing a quality tourist experience: The case of “Solares de Portugal”
15	Ek et al._2008_A dynamic framework of tourist experiences space-time and performances in the experience economy
16	Gopalan and Narayan_2010_ Improving customer experience in tourism: A framework for stakeholder collaboration
17	Graefe and Vaske_1987_A framework for managing quality in the tourist experience
18	Gretzel and Jamal_2009_Conceptualizing the creative class technology mobility and tourism experience
19	Gross and Brown_2006_Tourism experiences in a lifestyle destination setting. The roles of involvement and place attachment
20	Huang and Hsu_2010_The Impact of customer-to-customer interaction on cruise experience and vacation satisfaction
21	Jackson et al._1996_Tourism experiences within an attributional framework
22	Jansson_2002_Spatial phantasmagoria: the mediatization of tourism experience
23	Jennings et al._2009_Quality tourism experiences reviews, reflections, research agendas
24	Kang and Gretzel_2012_Effects of podcast tours on tourist experiences in a national park
25	Kim et al._2010_Development of a scale to measure memorable tourism experiences
26	Kim_2011_Audience involvement and film tourism experiences. Emotional places, emotional experiences
27	Larsen_2001_Tourism mobilities and the travel stance experiences of being on the move
28	Larsen_2007_Aspects of a psychology of the tourist experience
29	Lee et al._1994_The complex and dynamic nature of leisure experience
30	Lengkeek_2001_Leisure, experience and imagination: Rethinking Cohen's modes of tourist experience
31	Li_2000_Geographical consciousness and tourism experience
32	Mannell and Iso-Ahola_1987_Psychological nature of tourism experience
33	Matteucci_2012_Photo elicitation Exploring tourist experiences with researcher-found images
34	Mehmetoglu and Engen_2011_Pine and Gilmore's concept of experience economy and its dimensions: An empirical examination in tourism
35	Mossberg_2007_A marketing approach to the tourist experience

36	Obenour et al._2006_Conceptualization of a meaning-based research approach for tourism service experiences
37	O'dell_2007_Tourist experiences and academic junctures
38	Oh et al._2007_Measuring experience economy concepts tourism applications
39	Ooi_2003_Attention and the construction tourism experiences
40	Otto and Ritchie_1996_The service experience in tourism
41	Prebensen and Foss_2011_Coping and co-creating in tourism experiences
42	Prentice_1998_Tourism as experience: The case of heritage parks
43	Pritchard and Havitz_2006_Ratios of tourist experience it was the best of times it was the worst of times
44	Quan and Wang_2004_Towards a structural model of the tourist experience an illustration from food experiences
45	Richards and Wilson_2006_Developing creativity in tourist experiences: A solution to the serial reproduction of culture
46	Ritchie and Hudson_2009_Understanding and Meeting the Challenges of the tourist consumer experience
47	Ritchie et al._2011_Tourism experience management research: Emergence, evolution and future directions
48	Ryan_2000_Tourist Experiences, phenomenographic analysis, post-positivism and neural network software
49	Ryan_2010_Ways of conceptualizing the tourist experience: A review of literature
50	Selstad_2007_The social anthropology of tourist experience: Exploring the middle role
51	Sfandla and Björk_2013_Tourism experience network co-creation of experiences in interactive processes
52	Stamboulis and Skayannis_2003_Innovation strategies and technology for experience-based tourism
53	Sternberg_1997_The iconography of the tourist experience
54	Trauer and Ryan_2005_Destination image, romance and place experience: An application of intimacy theory in tourism
55	Tung and Richtie Brent_2011_Exploring the essence of memorable tourism experiences
56	Tussyadiah and Fesenmaier_2007_Interpreting tourist experiences from first-person stories: A foundation for mobile guides
57	Tussyadiah and Fesenmaier_2009_ Mediating the tourist experiences: Access to places via shared videos
58	Uriely_2005_The tourist experience conceptual developments
59	Vitterso et al._2000_Tourist experiences and attractions
60	Volo_2009_Conceptualizing experience: A tourist based approach
61	Wang et al._2011_Discussion on the true tourist experience
62	Wang et al._2012_The role of smartphones in mediating the tourist experience
63	Wang_1999_Rethinking authenticity in tourism experience
64	Wearing and Wearing_1996_Refocussing the tourist experience: The flaneur and the choraster
65	Zehrer_2009_Service experience and service design concepts and application in tourism SMEs

Appendix 4: Phase 2: Interview Instrument Data Collection Case Studies

INTERVIEW INSTRUMENT

COMPANIES

The following interview is a data collection instrument used to develop an understanding of "Technology Enhanced Tourist Experience" from leading tourism best-practice companies.

INTERVIEW DETAILS

Interview Information:

Company: _____

Interviewee: _____

Email: _____

Location: _____

Date/ Time: _____

Interview Brief:

Purpose of the interview

This study aims to explore how ICTs can be used to enhance the tourist experience through experience co-creation from a company perspective.

Dissemination of the research

The research is part of my PhD at Bournemouth University. The findings gathered from the study will be disseminated for academic purposes.

Anonymity of the interviewee

You will remain completely anonymous and your data will be treated confidentially. For member checks and in case clarification is needed at a later stage – personal and contact details are collected, which will only be known to the researcher and will be destroyed as soon as project concludes.

COMPANY BACKGROUND

1. Please state your position in this company.
2. Please tell me about the company's background.

TECHNOLOGY USE

3. What is the company's philosophy and rationale for ICTs use to enhance experiences?
4. When have you started to use ICTs to enhance experiences?

5. Which activities/services are you enhancing with ICTs?

6. How was the impact/potential of ICTs changed the way you create tourist experiences?

7. What types of ICTs do you use to enhance experiences in your company? (*Internet, Web 2.0, social media, mobile technologies*)

8. What types of ICTs do you provide for consumers to enhance their experience? (*platforms, services*)

9. What is the main role of ICTs within the experience? (*technology main experience itself, complementary to experience*)

10. What are the key features of the ICTs you are using for experiences? (*e.g. interactivity, social component, information, time*)

EXPERIENCE CO-CREATION

11. What potential do you see in using ICTs for experience co-creation?

12. How are ICTs used to enhance the co-creation process and make tourists co-creators and co-producers of the experience? (*describe examples in pre/during/post stage of travel*)

13. Who do you engage in the experience co-creation process through ICTs? (*tourist, other consumers, suppliers, employees, stakeholders, social network, fans etc.*)

ENHANCEMENT PROCESS AND TRAVEL STAGES

14. What role do you (and your employees) play in the enhancement of the experience and experience co-creation process through ICTs?

15. In which stages of travel (pre/during/post) do you use ICTs to co-create and enhance the experience?

16. How are ICTs used to support activities/enhance the experience in each stage of travel? (*preliminary information search, comparison, decision-making, travel planning, communication, retrieval of information and post-sharing of experiences*)

TECHNOLOGY ENHANCED TOURIST EXPERIENCE

17. What has been your key to a successful "Technology Enhanced Tourist Experience"?

18. What makes a "Technology Enhanced Tourist Experience" different from a tourist experience?

19. What development do you see for experience enhancement through ICTs in the near future?

VALUE & COMPETITIVE ADVANTAGE

20. What are the outcomes of a "Technology Enhanced Tourist Experience" for the company and the tourist consumer?
21. What is the specific benefit to the company of creating a "Technology Enhanced Tourist Experience"?
22. What is the possible added value for tourists creating a "Technology Enhanced Tourist Experience"?
23. How does the use of ICTs for experiences allow you to differentiate yourself from competitors?

END

Have you got any further questions about the project?

Thank you very much for your time and effort in talking to me.

REFLECTIONS/NOTES ON THE INTERVIEW

Appendix 5: Phase 3: Participant Information Sheet

Participant Information Sheet

Bournemouth University Research Project: Technology Enhanced Tourist Experiences

Dear participant, thank you for your interest in this research project entitled "Technology Enhanced Tourist Experience".

Purpose of the interview

The research entitled "Technology Enhanced Tourist Experience" is being conducted as part of a PhD degree at the School of Tourism, Bournemouth University. This in-depth interview aims to explore tourist consumer perspectives of how ICTs can be used to enhance the tourist experience through experience co-creation with the company. You have been identified as a key informant as you have experienced ICTs in tourist experiences over the last 24 months. I will ask you questions about experiences, your feelings towards and opinions about "Technology Enhanced Tourist Experience". What you tell me could help contribute to better understanding customer tourism and hospitality experiences and help facilitate providers better experiences in the future.

Dissemination of the research

The research is part of my PhD at Bournemouth University. The findings gathered from the study will be disseminated for academic purposes.

Anonymity of the interviewee

You will remain completely anonymous and your name will be immediately substituted with a pseudonym. For member checks and in case clarification is needed at a later stage – personal and contact details are collected, which will only be known to the researcher and will be destroyed as soon as project concludes.

Format, length and recording of the interview

Your participation would involve a semi-structured, open-ended interview around experiences and technology. Subject to your permission, the interview will be audio recorded for later analysis. It is anticipated to last for approx. 60 minutes and will be audio-recorded for later analysis. The interview can be interrupted at any point of time.

Consent

Strict ethical standards are being maintained throughout the project. Any material you provide will be treated confidentially and published in a format that does not identify individuals. The digitally recorded interview data will be stored securely and not passed on to anyone not connected with the project. Any personal and contact information you give me will be destroyed at the end of the research project. You can withdraw your consent at any stage before, during or after the interview. Thank you in advance for your help with this research project. If you would like to know more about the research project or have any questions, please contact me on the address provided below.

Barbara Neuhofer
PhD Researcher eTourismLab, Bournemouth University
Email: bneuhofer@bournemouth.ac.uk
Tel: 01202 965 046

Appendix 6: Phase 3: Participant Consent Form

BU Research Project Informed Consent Form

Thank you for agreeing to take part in the research project entitled "Technology Enhanced Tourist Experience". This form explains your rights as an interviewee.

I understand that:

1. My participation is entirely voluntary and I am free to withdraw from the research at any time without any disadvantage.
2. I am free to refuse to answer any questions.
3. My name or contact details will not be passed on to any third party and raw data I will provide will be kept safe from anyone not directly connected with the project.
4. Digital audio-recording of the interview will be kept secure and destroyed upon the conclusion of the research project.
5. Excerpts from the interview may be made part of the final research report, which will be accessible to public. However, every attempt will be made to preserve anonymity.

I agree / disagree to the use of audio-recording during the interview.
(Please delete as appropriate.)

I have read and understand my rights and consent to participate in the project.

Signature: _____

Name: _____

Date: _____

Appendix 7: Phase 3: Interview Instrument Data Collection Interviews

INTERVIEW INSTRUMENT

CONSUMERS

The following interview is a data collection instrument being used to develop an understanding of "Technology Enhanced Tourist Experience" from a tourist consumer perspective.

INTERVIEW DETAILS - SOCIODEMOGRAPHICS

Interview Information:

Interviewee: _____

Nationality: _____

Occupation: _____

Highest level of education: _____

Age: Years

Gender: Male ☐ Female ☐

Email: _____

Location: _____

Date/ Time: _____

Interview no: _____ Interview duration: _____
Interview code: _____

INTERVIEW NOTES AND REFLECTIONS

INTERVIEW BRIEF

1. Purpose of the interview

This in-depth interview aims to explore consumer perspectives on **technology use for travel** and how **technologies enhance your personal tourist experience**.

You have been identified as a key informant as you are using tech-savvy and use ICTs for travel purposes before, during or after your holidays.

I will ask you questions about experiences, ICTs use and your opinions about "Technology Enhanced Tourist Experience". While the following questions provide a general guide, you should feel free to elaborate on relevant aspects.

2. Dissemination of the research

The research is part of my PhD at Bournemouth University. The findings gathered from the study will be disseminated for academic purposes.

3. Anonymity of the interviewee

You will remain completely anonymous and your name will be immediately substituted with a pseudonym. For member checks and in case clarification is needed at a later stage – personal and contact details are collected, which will only be known to the researcher and will be destroyed as soon as project concludes.

4. Length of interview

The length of the interview is anticipated to **last for approx. one hour** if you agree. The interview can be interrupted at any point of time.

5. Permission to record

Do you agree that this interview will be audio-recorded?

6. Questions

Do you have any questions before we start with the interview?

Interview Process Checklist:

1. ☐ Thanks for participation
2. ☐ Interview Brief
3. ☐ Signing informed consent form
4. ☐ Socio-demographics
5. ☐ Start Recording
6. ☐ Conduct Interview
7. ☐ Questions and thank for participation
8. ☐ End Recording

TECHNOLOGY-SAVVINESS

1. Which smartphone do you use? _____
2. Can you describe your ICTs use in general, what ICTs do generally use on a regular basis (*smartphone, social media, mobile devices*)?
3. How often do you use social media platforms?

Never ☐ Monthly ☐ Weekly ☐ Daily ☐ Several times/day ☐

4. How often do you use mobile applications/LBS/AR?

Never ☐ Monthly ☐ Weekly ☐ Daily ☐ Several times a day ☐

5. When was the last time you used ICTs for travel? _____
6. Can you recall your last holidays and think of three examples where you used ICTs?

    1. _____2. _____ 3. _____

TECHNOLOGY USE

When you think of your last holidays....
(Imagine you are about to book a holiday...)

7. For what **kind of activities** do you use ICTs? Describe your use **before/during/after**.
   (*preliminary information search, decision-making, travel planning, communication and conversations, retrieval of information or share of experiences, opinions, connect with network*)
8. What **kind of ICTs** you use for these activities? Describe each stage **before/during/after**.
   (*websites, travel blogs, recommendation systems, virtual communities or mobile technologies*)
9. What is the **main reason for you to ICTs** to support these activities?
    a. **FOLLOW**: What is the biggest advantage/value you gain from using ICTs for these activities?
    b. **FOLLOW**: Is there a difference in travel types which ICTs you use?
10. How does your **travel planning or travel plans on-site change** with ICTs?
11. How does having ICTs make you feel in your experience?
12. What **resources** do you consult **first**?
    c. **FOLLOW**: **Compare traditional** guide books, tour guides, info centre, maps, asking people

13. Overall, 1-5, how important would you describe is it for you to use ICTs for your holiday?

Not important☐ Little important ☐ Neither ☐ Important ☐ Very Important ☐

NOTES + FOLLOW UP QUESTIONS

EXPERIENCE CO-CREATION

When you think of your last holidays....
(Imagine you are about to book a holiday...)

Connecting

14. When you use ICTs, how **important is it for you to connect/engage** with others? *(social network, company, other consumers, employees, stakeholders*)

    d. **FOLLOW**: What is the **main reason** you seek to **engage/co-create** with others?

    e. **FOLLOW**: What is the **biggest advantage/value** you gain from engaging with others?

15. Through ICTs, **who** do you seek to engage/co-create your experience with? (*network, company, other consumers, employees, stakeholders etc*)

16. Through ICTs, **what kind of experiences** do you **share** (friends, TripAdvisor)?

    f. **FOLLOW**: What is special about an experience to makes it worth **sharing** or **reviewing**?

    g. **FOLLOW**: How does the **TripAdvisor review affect** your experience expectation?

17. How does your travel company (**alone, partner, group**) determine your ICTs use?

18. Can you think of any **examples** where you seek to **connect/engage** with others? Describe each stage **before/during/after**.

19. **Imagine a travel without ICTs**, in what way do you feel **ICTs enhance the way** you can **engage** during your travel with others?

Company Co-Creation

20. How important is it for you that the company allows you to be **part of/have a say** in creating your holiday experience? (*Example: be asked for ideas, be allowed to personalise to needs/settings/hotel, individualise trip planners, asked for opinions*)

h. **FOLLOW**: What is the **biggest advantage/value** you gain from actively co-creating?

21. Can you think of any **special example/travel situation** where you were **able to personalise/be actively involved**? (*be asked to participate, decide, design, share opinions, create product*)

22. Can you think of any **example/travel situation** where you **would like** to **able to personalise/be actively involved**? Think of **before/during/after**. (*destination, hotel, airline, cruise, online platforms*)

23. How does this affect your **future consumption behaviour** with the company? **ROI** (*destination, hotel, airline, cruise, online platforms*)

24. Overall, 1-5, how important is it for you to engage with others by using ICTs for your holiday?

Not important☐ Little Important ☐ Neither ☐ Important ☐ Very Important ☐

NOTES + FOLLOW UP QUESTIONS

ENHANCEMENT PROCESS

25. Compared to a travel without ICTs, what are the **main aspects of your experience** that ICTs enhance?

    a. **FOLLOW**: What **aspects does it improve most**?

    b. **FOLLOW**: How does it get **better** for you?

26. **GRANULARITY**: How would you see that ICTs enhance/facilitate/improve/diminish these overall/single aspects/factors? *(LOOK AT GRANULARITY SHEET)*

    c. **FOLLOW**: Can you think of any **example/travel situation** where ICTs could improve/could have improved your experience? Think of **before/during/after**.

    d. **FOLLOW**: What about the experience could have/made it positive?

27. **(--)** Besides ICTs enhancing your experience, is there any **example/travel situation** where you ICTs **diminishing** your overall experience?

NOTES + FOLLOW UP QUESTIONS

TECHNOLOGY ENHANCED TOURIST EXPERIENCE

28. When you think about a "Technology Enhanced Tourist Experience", what are the **3 characteristics** that first come to your mind that best describe it? 1. _____ 2. _____ 3. _____

29. **Imagine an experience without ICTs**, what is the **biggest difference** for you in an overall Technology Enhanced Tourist Experience?

30. How would you describe the **process** of technology in a "Technology Enhanced Tourist Experience"? Is it a **new experience or an enhanced experience**?

    e. **FOLLOW**: What roles do ICTs play, assist, enhance, mediate, new?

31. What are the most **important factors that you seek** in a "Technology Enhanced Tourist Experience"? (*control, personalisation, engagement, time, information*)

32. Describe what your **ideal fully** Technology Enhanced Tourist Experience would it look like.

33. Overall, 1-5, how important is it for you to have a Technology Enhanced Tourist Experience?

Not important☐ Little Important ☐ Neither ☐ Important ☐ Very Important ☐

NOTES + FOLLOW UP QUESTIONS

Future

34. Where do you see **potential in ICTs** to enhance your personal tourist experiences in the **near future**? (*What would you hope to see?)*

35. **Finally, define a "Technology Enhanced Tourist Experience" in 1 sentence** (*Please provide a definition in your own words*) – (PIECE OF PAPER)

END – Question

36. Do you have any additional comments/questions about the project you would like to share?

NOTES AND FOLLOW UP QUESTIONS

Thank you very much for your time and effort in responding to these questions.

Appendices

Supporting Interview Material A

Consumer sheet for completion

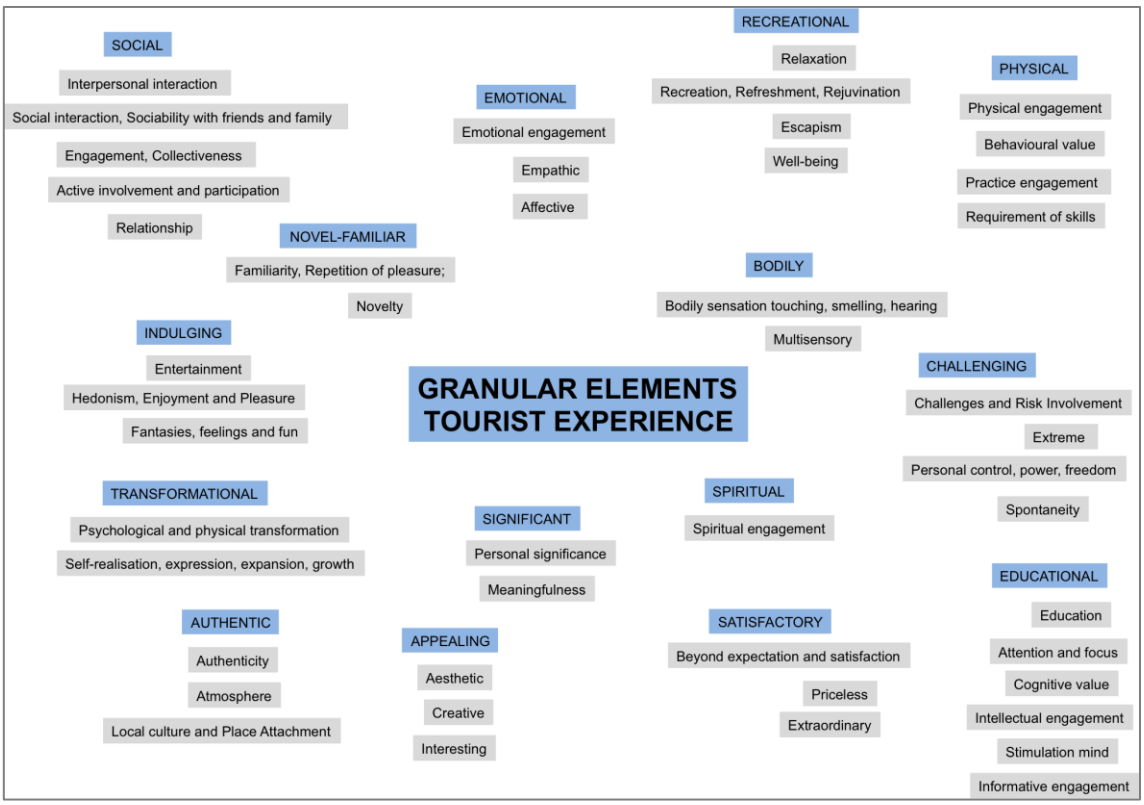
Describe in one sentence:

What is a "Technology Enhanced Tourist Experience" for you?

A "Technology Enhanced Tourist Experience" for me is…

Supporting Interview Material B

Discussion sheet: Granular elements of the tourist experience



Appendix 8: Phase 3: Sample Interview Transcript

Interview Code: CON9T 01.05.2013

Interview Details	
Interview	9
Interview Code	CON9T
Name	Anonymous
Pseudonym	Teresa
Date	01.05.2013
Location	Bournemouth University Campus
Time	11:35
Length	1:25:26

Barbara
Thanks very much for participating in the interview. The first few questions will be about your technology use.
Barbara
Can you explain which smart phone do you use?
Teresa
For now I'm using a HTC.
Barbara
Have you got any applications on there?
Teresa
Yes usually I use the social media applications. And email and some sort of basic applications, yeah that kind of applications.
Barbara
What kind of applications, the names?
Teresa
I'm using Twitter, Facebook, and for push email I'm using Yahoo and Gmail and Instagram and an applications for pictures, like PixR or Saimera, or those things and for travel I use. Recently I went to Holland before, so I have this transportation application and weather forecast, that is all, YouTube.
Barbara
So for travel specifically you have navigation and weather, do you use any tour guide applications?
Teresa
No, basically when I'm in the city I use Google maps, I don't usually use applications but I'm using the browser surface, so I just Google everything and when it is connected to some sort of application I might download it but when I exit from the country I might delight it.
Barbara
Why do you prefer a browser than downloading and using an application?
Teresa
Because first I don't really want to see much applications on my phone. Because it doesn't really use nice, having lots of apps. So I usually just see through what I need before I download it.
Barbara
How often you use these mobile applications?

Teresa
Few times a day.
Barbara
And how often do you use social media platforms?
Teresa
I cant even imagine living without it, so yeah (laugh).
Barbara
When was the last time you used ICTs for travel?
Teresa
A week ago.
Barbara
Can you recall three destinations you have been and used ICTs for that?
Teresa
First probably Amsterdam, the apps was 9292 for the transportation surface. And I usually use TripAdvisor but I delete it now, to look for places to go and the reviews, do you need the city name.
Barbara
Can you tell me three destinations first?
Teresa
Amsterdam, Barcelona and Cannes.
Barbara
Great so we can discuss that, and now let's talk about the three stages of travel. So in the pre-stage before you go on holiday, what activities do you do and what ICTs do you use for that?
Teresa
Facebook and Twitter basically, because I in Facebook people post plenty of stuff, images and videos, so that is some sort of making a mix of what is really appealing to go to which destination. Because I like all destinations in the world and travel around places, so they keep posting about images of destinations, like a few times a day, which really trigger your willingness to travel to places. And on Twitter they also keep posting about articles and pictures, which really trigger people like me, which is easily influenced, yeah.
Barbara
So this has an effect on you, does it influence your destination choice?
Teresa
Yeah, usually for the image, it is really more make me wanna go to that place compared to the mere article.
Barbara
So even for a place you haven't seen or thought about before and your friends post it, what happens then?
Teresa
(laugh) yeah when they post image, so like a place, that is close to Cannes, it is called Le Calam, which I don't really know this place before, it is like a mountain in southern France, and one friend posted a picture which is really nice and amazing and so asked her where is the destination, what is the name, how to get there. And yeah all of a sudden I put it on my list of travel and it has really influenced my decision to travel there.
Barbara
What list?

Teresa

I put, because I have 2-3 week journey and I don't really make a specific plan, I mean I have to go there and here, I just make, I wanted to visit Barcelona and the big city but I didn't put like attractions on what to see in there, so it like built along the trip.

Barbara

So when does the travel planning happening, before you leave, so you book the flight and when do you do the planning?

Teresa

So yeah, like a week before, I book the plane, and then I book the accommodation of Air BnB, and yeah I have the application, and I just book the flight and the accommodation but the major attraction of the place is basically built along the way. So yeah, on the planning stage I only book flight and accommodation and which city to visit.

Barbara

When you are there you are influenced by what your friends post?

Teresa

Like in general, which place should I go, like a restaurant or something like that, I visit the Internet for like 5 restaurants you have to visit or 5 clubs you have to see, 5 pubs you have to see, in a certain city.

Barbara

And when does your friends influence comes in there – through an image, at what point does this come into your consideration?

Teresa

Planning.

Barbara

Before you leave?

Teresa

Yeah before, but also when I'm on the trip. Because for example because I see my friends post that image of Le Calam, so I wanted to visit this place, but also along my trip I wanted to find because of Facebook is always on with my mobile phone so to check what is happening around, so I can also check on Twitter, like places to go.

Barbara

Why does it have such an influence on you what your friends post rather than any official tourism information?

Teresa

Because pictures are really appealing and he has been there before so it is easier to find out from my friends because he can explain to me how to get there better. Because sometimes when you open a tourism website, official website, they tell you to go with this bus or that bus, but sometimes it is more confusing. It is not even up-to-date and my friends, they have been there a few weeks ago or a few months ago and it is still fresh. Yeah it is better from my friends.

Barbara

So is this the main value or the benefit from your friends?

Teresa

Yeah.

Barbara

And you also said that you are always connected with your mobile phone, what about roaming, is that any issue for you?

Teresa
No because I always buy the SIM card if I'm gonna stay in one country for a week I decide to buy a sim card in that country and if I'm staying for less than a week then I use Wi-Fi service because I get plenty or otherwise McDonald.
Barbara
What are you doing at McDonald?
Teresa
Wi-Fi. Yeah if I'm only staying for 3 to 4 days then there is no point to buy a SIM card because it is quite expensive, so I use the Wi-Fi service around?
Barbara
What is the main benefit you get from always being online?
Teresa
So I can be more present like up-to-date information and also get attached to people because it is not only gain information but I can also spread information when I'm abroad. So I can post pictures and update tweets or something and that feels nice when you share image with people it's like a two-way activity.
Barbara
What is the main benefit from sharing with friends?
Teresa
Their attention, I don't know, I just like taking pictures and sharing them, I'm not sure about the benefit that I get, and inspiring people to go there, I mean if the place is really hidden or not many people know that place and you have been there as the first person in your network then it feels I don't know how to describe it, proud. Yeah.
Barbara
What benefit do your friends gain from that?
Teresa
Information from me. And yeah, information, because usually after I post on Instagram or Path, mainly they ask "oh that is an amazing place, so beautiful, where is that, and how to get there?" and you feel, it makes me feel informative, that is not the word, it makes me something, when you can tell people how to go there, and that the place is really amazing and that you are the first person they know that has been there.
Barbara
So you would see your role in travelling for your friends? Try some words to describe it.
Teresa
Informative, helpful, maybe it is helpful, helpful and proud, it is like that you are the first person that they know has been there, that is something for me.
Barbara
And you said that also you want to update with information and get it?
Teresa
Yes that is why I go on Twitter and Facebook but when I'm looking for specific information I'm looking in Google, like the best five pubs, or must visit in a certain city, and from there I might use another key word or term and then I put it on Twitter or even in TripAdvisor so I can see the feedback from people around about the price and ambience that kind of things.
Barbara
There is also traditional ways, like a visitor centre, or guide books.
Teresa
No (laugh).
Barbara
So what is the main value you get by using ICTs compared to these traditional means?
Teresa

Much faster and much more convenient for me, because it is in your hand, and I easily get lost and even though there are app, I always carry a map with me, a traditional map, yeah, apart from Google maps, because I easily get lost, so the idea of when I get lost and having to find a visitor information that kind of thing is some kind of hassle for me, so it is easier to look for information in my hand and using Google maps so that I can direct me right away through my destination.

Barbara

Ok, this is about navigation, what about information, what is around you?

Teresa

Because sometimes using a visitor information centre is not really up-to-date, so even though there is people who guide you, I visited one visitor centre in Spain I think and they have been helpful, but I only visited that information centre because their offices popped into our direction, so we were not looking for it in the beginning but because they were just THERE, we visited the office.

Barbara

And otherwise if they weren't there, if they weren't in front of you?

Teresa

I mean if we have a specific enquiry then we might visit, but I don't know, if you can't see them around it is always easier to use your mobile phone to get specific information.

Barbara

And you also mentioned Twitter what is the main value of Twitter? From what you get?

Teresa

From what I get is a lot of information, because when you type specific hashtags, like Florence or club Florence and food restaurant Florence, I can find many things and it is more recent because the list is from the most recent, so I can see, and I can even find some sort of events that are going around by using Twitter so it is kind of helpful to me.

Barbara

So what is the main benefit of Twitter?

Teresa

Being up-to-date, even during my travel and in Amsterdam I also used Twitter to see what is around and because Amsterdam is really hip, and then I just put hashtag Amsterdam and I could see plenty of events going on and even the one that post the organiser, so I could see their offer or something, but usually after I look something up from Twitter I also google it, so it is not merely based on Twitter. I also get the information on what is happening on the clues I found on twitter and google it.

Barbara

Why do you also google it?

Teresa

Because I need more information (laugh).

Barbara

Why? What is the process you undergo, why do you require more information?

Teresa

Just to give me assurance on the decision that I will take later on. Like because on Twitter you can find plenty of things and you have to sharpen out a bit, so from plenty you have to make a decision of ok which one is better among two or three and you can see people's feedback and this is easier on Google, because on Twitter it is limited to a few characters and people cannot talk much about it.

Barbara

What is your process, you said on Twitter there is so much you get, like hashtag Amsterdam. How do you filter the information you get, what is relevant to you?

Teresa

I usually, when I'm using Twitter I just want to know what is going on, I don't even know, or even have a specific search when I use Twitter but I just want to know like what is happening around, so I put the city name and the attraction I want, like bar or restaurant or even gelato Florence or something and it is with a purpose, but I just want to see what is coming up using that keyword and you find that it is really helpful.

Barbara

Would you describe Twitter as a source of inspiration?

Teresa

Yeah, inspiration, and up-to-date information and inspiration, but not for making decision, but I need more information to make a decision about a place to visit.

Barbara

And for making a decision you said you use Google, what else?

Teresa

Information about what is happening around? Basically Google and Google will direct me to other sites.

Barbara

And you said to for example you look for 5 pubs or clubs to visit, why 5, what does this imply for you?

Teresa

Like 5 or the best, because if you just type pubs there is a gazillion of sites that will come up, so I sharpen my search to just ok, I want the best or the top 5 to save my time. And then when you put a general keyword like pubs in Barcelona it will come up with a lot of things from backpackers club with a high-end club, so if you use a specific keyword then it might be more helpful for your search.

Barbara

And you also said that you use TripAdvisor what do you use that for?

Teresa

My journey is, maybe I get some keyword on Twitter and then I go on Google and Google will drag me on TripAdvisor so I can see feedback from people that might be that they have been there before so I can see if they are happy or not happy, and having been at the place before, maybe I once or twice, I used TripAdvisor to seek a review for a pub and when they give like a 5 star, when they are basically really satisfied with the service, it gives you reassurance despite that it looks nice. And the also, the information they put on TripAdvisor is not really about the satisfaction level, like the price, sometimes they put an average price and how to get there, some sort of location information and it is really informative sometimes.

Barbara

What is the main benefit of TripAdvisor compared to traditional means?

Teresa

Sometimes because you have information in detail compared to the other websites. And there is plenty of reviewers for the name of the pub or the restaurant and so, you can see if there is many reviewers it means that, most of the time, it means a good thing for a place to visit?

Barbara

And if there is only a few reviews?

Teresa

Hmmm… it might also be a good thing, because maybe the place is new, or something, so basically I look for the reviewers and my first rank is how many stars they give, so the quality first, and then if there are many reviewers it gives you more reassurance. It doesn't matter to me if there are only a few reviewers as long as they give good ratings.

Barbara

Do you also write reviews?

Teresa
No (laugh), I just don't like writing things. Basically I just post image on Twitter or Facebook but I'm not into writing reviews, I might consider it but not at the moment.
Barbara
So what are you more into?
Teresa
Image.
Barbara
Why is images that important to you?
Teresa
Because it shows to people like more clear description compared to words, even when I post something, because a lot of my friends are running a blog or that kind of thing and they put words, but then it is really boring when it is all words so they use images, so in my opinion images is much more important than words, and in TripAdvisor it is usually just words but yeah, it is helpful.
Barbara
So how does this make you feel, seeing images?
Teresa
It is much more appealing for me seeing images compared to only words. Because you have an option and in TripAdvisor there is no image around but it is okay.
Barbara
Good and then coming back what you said before, AirBnB, can you describe your accommodation search?
Teresa
Because it was three of us, girls, we thought it was more useful for us just to rent a flat or a room compared to stay in a hostel or hotel and then we found the application called AirBnB and there is also one similar called hmm and they basically, people that have unused rooms or flats basically single rooms in their house, which they are not using, so they put all the information and also the image on the web, and it is like Couchsurfing but you have to pay to stay, so we type in the keyword for the city, so for example I'm looking for accommodation in Barcelona and they will pop up with a lot of price range, and we decided a certain price range and how many we are and whether we can stay there and they will come up with plenty of options and also image around and reviews from people that have been there before, so it is really helpful for us, we can just see all the image of what they offer, so the reviews from people that have been there before, that is really helpful.
Barbara
You said it is similar to Couchsurfing, how is it different? What is the advantage?
Teresa
The difference is that you have to pay, because Couchsurfing is completely free. And with Couchsurfing you have to get to know your host much more, compared to the AirBnB, because in AirBnB, it is because we paid so the host might feel like ok we are the guest, so it is basically up to us what we wanna do, and the bond is not that strong compared to the Couchsurfing. So the benefit is, sometimes it is better for you to get around the city with your host, if you are completely alone and you have no friends during travel. But because we were in three back then, and we wanted, I don't know, two of my friends are not really into talking with the host, so yeah, so they give me more freedom and space when using AirBnB.

Barbara
The difference between a hotel and AirBnB? And the advantage?
Teresa
The advantage we had from AirBnB that the price is much cheaper and also the benefit is that sometimes we can rent the whole flat for ourselves so we have access to the kitchen and also have everything. And also some of them offer us the public transportation card so we get a discount around, and it gives you more travel like a local I think, compared to staying in a hotel, or hostel or even a backpacker hostel.
Barbara
How was your engagement with your host?
Teresa
During our trip we had 8 flights and all were very nice and the hosts were very helpful. And there are open for any questions we had, and also because we stayed in a not-naturally English speaking country, they helped us to, they taught us some words, like helpful words, like basic words to how to go here and how to go there, ask for the bill, which is really nice.
Barbara
Would you describe this as the main value, of staying with a local rather than staying in the hotel?
Teresa
You get more experience to travel like a local I think and the flat itself is sometimes, they live in a traditional kind of house, so it gives you the experience in a local house with a local and sometimes they even serve you food, so like the local food which is really nice.
Barbara
And you don't have to pay extra for that?
Teresa
It is different from one to another, sometimes it is free sometimes for the other host, might add some extra cost, but for our case it was completely free.
Barbara
Again you mentioned the bonding in Couchsurfing, what is the advantage or the issue with bonding with the host?
Teresa
I mean I think it is really important to make friends with people all around the world it makes it easier for use to travel to that place, in the future, so you can have a local contact and they can show you around and you can meet up and I think it is important to have a local contact in a country.
Barbara
But you said your friends are not so much into bonding with the host, is that's why you chose AirBnB?
Teresa
Not really, I mean sometimes it is hard to find with Couchsurfing a host that wants to host three girls at the same time. And I think that is the first issue, and the second issue is, that if you stay with a host, you have to talk more with a host, and after when you are travelling around for the whole day, you just wanna take a rest and you don't even have the time to check around, and if you are using Couchsurfing you feel bad if you don't have the proper interaction with the host, because the host wants to have some sort of sharing the experience, so you have to invest more time with the host during Couchsurfing, which is kind of different with AirBnB I think.

Barbara
So this is kind of in the pre-stage when you decide which accommodation and you also consider hotels?

Teresa
No for the last trip not, it was much cheaper using AirBnB and we could also pick which one was located near to our attraction we wanted to visit, so yeah, we didn't really consider to staying in a hotel.

Barbara
Is there anything else, in the pre-stage you do, we already said, you do some planning but not massively, and you decide to book the plane and the accommodation.

Teresa
In the planning stage, I also look for transportation around, but I don't really book it at the moment I just want to know the price range and the schedule and also I look for opening hours, and we went to the Camp New in Barcelona because my friend is a huge fan of the Barcelona football league and we looked to get information about the price and opening hours.

Barbara
And then when you are there, you said when you stay longer you buy a SIM card for your mobile, what activities do you do using your mobile device?

Teresa
Internet basically and they also give you free minutes and free text because there were three of us, and sometimes we have different needs around the town, so we can easily connect with each other, because with the AirBnB they only gave us one key (laugh) so we have to get connected with each other.

Barbara
What else, and with your mobile phone, and the applications what do you do?

Teresa
Posting pictures, checking the weather and check the public transportation around, because for a few places they have a good and helpful website for you to check what buses run from one place to another and on what fares the offer, and also the schedule, so yeah I usually I use the weather, the transportation and social media.

Barbara
What is the main advantage of using the transportation on the mobile phone?

Teresa
I think it is up-to-date and it is faster compared to, or maybe we just feel exhausted and we want to stay in a café longer and so we can check the later train or the later bus services, compared to us going to the train station first and checking the schedule and sitting in a café later on, so it gives us faster service and faster information.

Barbara
And then you are sharing pictures as well, what is the main value of sharing it when you are still there?

Teresa
Yeah, ah and I also check in. so that people know, I think…

Barbara
I mean you could also share it afterwards, why do you want to share it while you are still there?

Teresa
I'm not sure (laugh) i think just for being up-to-date and just so people know that I'm being here and being there, and I can post one of the nice scenery images like, I don't know, to give information to people, I don't know, I'm not sure why now.

Barbara
How do they react?
Teresa
They usually react like “ok, that is an amazing view, how to get there” and they also ask about the flight I'm using and what is the price and where do I leave and where do I stay during my trip, so that kind of questions, but they don’t ask in social media but mainly, in the social media they see the pictures through social media but when they want to interact with me they use the WhatsApp.
Barbara
So it triggers them to interact with you when they see your pictures. And what do you get out of it?
Teresa
Is there options (laugh) I'm not sure, it’s just, fulfillment I don’t know, because when you put an image and people know and ask how to get there it is like some sort of proud, because you have been there and people have never been there before.
Barbara
And if people from your network have been there before do they also give you advice?
Teresa
When I'm in a place and there is an image and someone contacts me “oh ive been there before” usually they ask me questions, “oh have you tasted the ice cream here and there” and it also gives you ideas about places.
Barbara
What is the main value that your friends tell you that?
Teresa
Information because maybe this place I don’t even consider to try that food during my planning, and because my friend told me that I have to try this food or this drink it gives you, it inspires you “ok maybe I can try things that they recommend me” so it gives me information, so it is two ways.
Barbara
So how those this affect your planning there?
Teresa
The information I get from friends? Yeah because when they recommend me this place and they are really sure that I have to try, usually it is nice, maybe it is a tasty food or an amazing café or something and it gives you inspiration and usually when people recommend me something it is a good thing.
Barbara
And then would you also change your plans what they say?
Teresa
I might, but when they are telling me something then I put everything back to Google, I usually Google the café or restaurant they recommend me so I can see whether it is good, I don’t like only because my friend has told me so, like ok, let’s go there, and then I'm disappointed because we have a different view on a good restaurant or something and then I put it in Google and look for other people’s reviews and also images.
Barbara
So you check it?
Teresa
Yeah I check it.
Barbara
Then coming back to what you said, Foursquare, why are you checking in and what is the benefit you get from it?
Teresa

I just feel that I like it, you know even though there is no benefit I get, I can't be a mayor for just one check-in or even if it is a small restaurant and I'm sure that they want give me anything just because I'm checking in. I just check in from one place to another because it gives you satisfaction. I'm not sure whether Foursquare have that kind of timeline where you can check where you have checked in before, but I'm using a social media called Path and it can also check in from one place to another but there is no option of becoming a mayor or something but when you stroll your own timeline, you can see that you have been to many places, and it gives you happy feelings.

Barbara

How does it make you feel?

Teresa

The idea of having been to many places does make you feel good. So yeah, I'm not sure about the benefit, just because of the feeling, satisfaction, yeah maybe.

Barbara

What do you like about, you said becoming a mayor, do you want to do that?

Teresa

Yes I'm using Foursquare since a few years ago and in Indonesia, becoming a mayor gives you a few benefits, if you for example become a mayor in certain Starbucks brands they give you free coffee or free cookies, but here I don't really check in so much, so I haven't become mayor anywhere, so I haven't gotten the benefit of becoming a mayor apart from Indonesia.

Barbara

What is the benefit of becoming a mayor, you said they give you something?

Teresa

Yeah, I mean I experience that becoming a mayor in a Starbucks branch in my downtown and the gave me, some sort of tea, Starbucks tea for free and yeah.

Barbara

And how does the Foursquare application and you check in and become a mayor, how does this change your tourist experience, when you get an additional cookie?

Teresa

Yeah amazing, it feels amazing, you don't really expect that the company gives you something and then when you become the mayor, I didn't even know that I was becoming the mayor and they gave me something and it was out of the blue in the Starbucks when I went there many times during my dissertation for my bachelor and I went to the barista and I told him "oh you know what I'm becoming a mayor in here, there is nothing for me?" and then he said "oh really?" then he spoke to someone and then he gave me free cookies and free drinks, so I think it is a really nice touch from them to engage with the customer because they don't really advertise when you are becoming a mayor we will give you freebies, it is just for me and I talked to the barista, hey you know what I'm a mayor in here, have you got any offer and it is just…

Barbara

And you didn't expect it?

Teresa

No.

Barbara

Because they didn't advertise it? What did you feeling did you have after you were offered a cookie?

Teresa

I was surprised but it is satisfying, but I think that the major element is like the surprise feeling itself because I didn't expect this kind of things to happen. And I just told the barista without nothing expected and so yeah they gave me something it was like "oh WOW, that makes me feel great".

Barbara
And if they didn't give you a cookie but just something maybe for your next visit a voucher, what would you prefer, or would you value that equally?
Teresa
Ok, I think it is the same, the idea that they give me something because I'm the mayor, out of the blue and don't advertise it, I think it is a good feeling.
Barbara
How many friends of yours are on Foursquare?
Teresa
Not sure I don't think they have followers, I mean I connect my Foursquare with my Facebook so basically when I'm becoming a mayor, they see, but in the setting area, I turn it off when I'm checking in because sometimes it is annoying, so just when I'm becoming a mayor that my Facebook friends would know.
Barbara
Do you like the idea of competing with other people?
Teresa
Sometimes but not most of the time, not all time. I like to setting my Foursquare or any other location based services, just in that specific moment, not always integrated from Facebook to Twitter to Foursquare because it is kind of creepy if people always know where you are.
Barbara
Why?
Teresa
I don't know because maybe, if you don't really want to meet people and they notice that you are here or there and they come to you and then you have to spend time with the people.
Barbara
So you would only give your location if you want?
Teresa
Yeah when I want, like when I'm abroad or when I'm in a specific location I turn it on, but in my usual life I turn it off. Because I don't want to be that update all the time.
Barbara
So now we have discussed during, when you come home, what do you do?
Teresa
When I come home, during the travel I only post certain image and I have like a gazillion of images on my camera, so I post the rest of it to Facebook. For me it is more Facebook I mean I post the activities that I do, I mean my friends run a blog so they put all the experiences in the blog and that kind of thing.
Barbara
Is it important for you to re-experience your travel after you are at home? Like posting the pictures so you re-experience?
Teresa
Yeah it is really nice, so when you are home, you sleep for a day and the next day you post all your pictures on Facebook and you are walking down memory lane and you can see, oh ive been here because I stayed with the other two girls that were travelling around with me so we can share some stories, like recalling some of the stories that happened before when we were here and there. And also I put a review on AirBnB, so it is a post-trip thing. So we, I think it is not much, just one or two paragraph of our experience staying at the place, so we reviewed for our host.
Barbara
Why do you write, because on TripAdvisor you said you don't write reviews, so why did you do that?

Teresa
They asked us to do (laugh) because I think it is a good thing from them, because we were satisfied and if we put a good review then they will gain much more demand in the future, so yeah I think it is ok for us to just… you know we only paid a small cost compared to a hotel and they gave us an amazing experience so I put on the review.
Barbara
So you only posted because they asked you to do? And if other places would ask you to rate them on TripAdvisor would you do that?
Teresa
Yeah I think.
Barbara
So what does it take that you write the review?
Teresa
Because I have this bond with the people so I will put the review on, and I knew that if I put the review it causes something good for them. So even, I never experienced this but if I'm feeling very satisfied with a café and the manager or the waitress asked me to put a good review on it, on TripAdvisor ok, I would put the review.
Barbara
Would you expect any incentives for that?
Teresa
No, no. because I already had the incentive before, so it is kind of like my due to pay back for their service.
Barbara
And another question because you said you travelled with a few friends of yours, can you describe how your technology would change if you were there when you are a group?
Teresa
Sometimes when we are really exhausted, they all have an Internet connection we just silence for a few minutes and everyone keeps updating their Facebook or Twitter and then we realise that we are still silent because we keep busy with our activities on the viral world.
Barbara
And it happens at the same time, so if you are a group everyone does that?
Teresa
Yes. Yeah, just the three of us, it is not that annoying because we know that what we are doing is the same basically and we do it in a café not in an attraction, you know that you are into that attraction and the other girl is busy with their phone like, being isolated in their own world, it is kind of annoying sometimes. But for me, when we are isolated at the same time, I think it is ok.
Barbara
In your tourist experience, and you come to your phone in your virtual world, you say isolated, can you describe that a bit more?
Teresa
Because they are like lost from their surrounding, they are busy uploading and because you are uploading image people will ask and then you get busy with WhatsApp or any other messenger service you have on your mobile phone. And yeah you just get distracted from your surrounding, you don't even know what is happening. I think that happens plenty of times and you sit down in a café and you enjoy your meal and you have to wait for certain minutes until the food arrives, and when there is nothing on the table and we are exhausted to talk to one another then we just engage with our virtual friends.
Barbara

So is this moments when you have to wait or don't want to talk to each other?

Teresa

Usually when we have to wait for the food, and I think also after, I think when you spend the whole day travelling or half day around, because usually by bus or foot sometimes we are soo exhausted, or in times where we were waiting for food to come, we just post things. Yeah.

Barbara

So it is in those spare times in-between?

Teresa

Yeah.

Barbara

Would you also use the technology to connect with your virtual world when something major is going on or is it only during the spare times?

Teresa

From experience only in spare time. Like you mean when I'm at a major attraction? I think when we are at a major attraction we are busy taking pictures of us (laugh). So yeah, I think it happens most of the times when we don't have any country SIM card in our phone so we have to use the Wi-Fi service, so it usually happens in a café or a restaurant and it wouldn't happen in any major attraction.

Barbara

Have you also travelled alone before, does technology use change when you travel alone compared when you are with the group?

Teresa

No I think it is still similar, because when I'm travelling alone I still use my phone. I think it is not really so much different when travelling alone or in a group when you visit a culture that you don't really have much information about because all in the group also don't know about the country, so it is still the same when you are alone or in a group of three girls that don't know anything.

Barbara

Would you say that you use your mobile device or applications more when you are alone or is it the same?

Teresa

I think I use it is the same, because basically I use my Google to look for things and also the weather forecast, I think it is the same.

Barbara

And when you are with the group and for example you are lost, what happens, three girls a lost, who takes the phone and is it one person or?

Teresa

One person using the Google maps and the other follow. So yeah I think it is the same, when I'm travelling alone I still use Google maps, and when I'm travelling with the girls, yeah.

Barbara

And with the screen is it one person doing the work and the other ones are looking or is it only one person doing the work?

Teresa

Yeah (laugh) the mechanism is usually, one person does the Google maps and tries to look things up and then, I don't really read maps so I usually wait for her, I mean if I'm alone so I have to read the maps by myself, but if it is with someone else it is easier to depend on.

Barbara

Summarising, how important is it for you to use ICTs for travel from 1-5?

Teresa

5.

Barbara

We have talked a lot about engaging with friends and others, do you also seek to engage with tourism providers, hotels, destinations, using social media or?

Teresa

Not really because I don't really stay in the hotel or hostel but I'm aware of some of the backpacker hostels have a Facebook or Twitter account and if I'm staying at such as backpacker hostel I will engage with them in Facebook or Twitter to get recent updates from them, but because I'm using AirBnB I don't do that.

Barbara

Did you engage with them before you went there, with your hosts through AirBnB?

Teresa

Yeah but we were using the AirBnB app to get in touch with them, so we could ask about the direction to go to their place and other things like how long is it to go the train station, but I wouldn't add them on my Facebook or Twitter.

Barbara

Would you consider them, the hosts of AirBnB more as a tourism provider or more as a local that rent out their houses?

Teresa

I think it is more local, not a tourism provider, I mean from experience, I mean we experienced eight, it is not that much but it is kind of a big number for me, as the first experience and all of the hosts are really helpful and they are being a good local and I have to say that it is more of a local compared to tourism provider. But when I look for accommodation and I read reviews about other flats, sometimes the host is also not really helpful, so maybe for others they feel that the host is a tourism provider rather than a host.

Barbara

Would you value that through social media engage with locals of the place? Through Facebook in some way to engage with locals?

Teresa

Like Couchsurfing?

Barbara

Yeah but not necessarily Couchsurfing that they provide you with something but rather for information?

Teresa

Oh yeah because I know that in Couchsurfing they also do that kind of information thing, they post local events and also if they have a plan to just pick nick in the park on a specific date, so they post it on Couchsurfing, so it is not merely a place to stay but they also accommodate you to engage with local people and it is really nice and I experienced it once, when I went to an event created by a local host and they invited 10-20 people to come to just have a social night in a pub which was really nice.

Barbara

And what do you value most about that?

Teresa

Being there with local people, for me the idea of travelling is just to taste local experience, so you can some kind enrich your experience when you are abroad, so you have the opportunity to spend the night with a bunch of locals in a local pub and sharing travel stories and things. It is really fun.

Barbara

So how in overall, it is important to engage with people form 1-5.

Teresa

5. I really like to engage with people.

Barbara
When you have a look at this sheet, what components can technology enhance some of these?

Teresa
Social, from my experience, the Internet is really helpful for me to find this entertaining places and how to go there and some sort of information related to this entertainment topics, and it would also describe my experience with ICTs during my travels, because I really easily appealed by image, so it gives you some sort of image in your own head, so if you see an image from people where they have travelled to this place, then you can imagine yourself being there and what you could do in this kind of place and with your imagination. And social I use ICTs mostly for social sharing, sharing content within my social media.

Barbara
So would you say your overall experience is becoming more social?

Teresa
It is more entertaining. Maybe it is 50/50 because I'm sure I spend much time on social media but I feel that I get more information from mobile applications that I download and the Google to get information, so it is like 50/50 of information between social media and information that I have for the entertainment.

Barbara
What else?

Teresa
Not spiritual. Stimulation mind I think yeah because it is related with my image, where I see image it stimulates your brain, oh this has an amazing view maybe I should visit this place. Emotional, I'm not sure about the emotion kind of thing.

Barbara
For example how does it affect your emotion, does it somehow enhance them? You explained some things like you are happy more sad, so how does technology can make your emotion enhanced?

Teresa
Yeah it is related to emotion because your host is making you food like you experience this when I'm in Italy when he made pasta, or pizza or coffee. It gives you an emotional experience. Because the previous host, they were helpful and informative, but they didn’t have the time to make you something so it gives you a really nice emotional experience when your host cares much about you and serves you local food.

Barbara
Can you describe for example how your emotional experience changes with Foursquare?

Teresa
Yeah I think it is also related to the emotional experience when I check in when I don’t really expect the result of me checking in anywhere, so it gives me like satisfaction, it is not bright but I feel different from the other people who have not been there before and I think it also gives me emotional pleasure for being at the places. I'm not sure about the other thing, well I'm sure about social, emotional, stimulation mind.

Barbara
Do you anything technology could actually diminish it?
Teresa
Physical, maybe, maybe physical because I prefer to use my mobile application instead of using the real visitor information service because I think it diminishes the existence of the physical engagement with the visitor information centre and also I think we use Google Maps compared to the actual maps and you also, I have an application for basic translation, so we use that compared to the heavy dictionary which is really helpful, so I think we diminish the physical engagement, compared what we used to.
Barbara
And when you think of a Technology Enhanced Tourist Experience, what three characteristics would you use to describe it?
Teresa
Boost my experience, wait let me think, boost, I mean it boosts my experience in temrs of I expect this kind of experience beforehand and by using technology it can boost and enrich my experience as a whole but technology also helps me to get information about something that I don't even know that exists before, so it gives you an experience right, because it gives you information about an experience. I don't know the words.
Barbara
So for example, what role is it with technology, does it assist, enhance or create a new type of experience?
Teresa
I think it is the whole three because it assists me basically when I'm looking for information of specific or general information, or information that I don't know that exists before, so it definitely assist me, and also boosts my experience when I found out about something and it boosts it when I'm using, I know it is old, but I never used a QR code before, and when there is this QR code in a restaurant and I find it in a menu that link to their event, we don't even attend the event but we just try the QR code and it gets connected to a website, but you know in a mobile interface and it gives you a nice experience.
Barbara
What about a new experience?
Teresa
Yes I like the new experience that I get by enhancing with ICTs and even just using public transportation service and it gives you a really update information it gives you a really nice experience, because in Asia we don't have this kind of application and it integrates all train, bus, taxi even direction to walk which is really nice.
Barbara
So would you say it enhances or changes the whole experience?
Teresa
I think it, I can think of examples of enhancement that are made by the technology of the public service, but you know you can always ask people to get from one place to another and they will give you directions and you can always get to a place with or without technology. But by using technology it gives you a nicer experience because you can just scroll by using your mobile and you can find plenty of options, and you can take this train or buses, and they also give you the fare, the fare if you take this option or the second option and they also give you a specific time table or so, which I think you can use those options using a mobile applications or asking people, but if you are using the mobile applications it gives you a more nicer experience.

Barbara
When would you say that it is so much enhanced that technology creates a new experience?
Teresa
Hmmm… I'm a bit confused about creating a new experience or being enhanced. Like this transportation service you can go to a place by asking people or by using mobile applications. So the experience is how you get to that place right, and you are using mobile technology it is more an enhanced experience compared to the completely created new experience. But maybe if there is something like the famous Augmented Reality it can create a whole new experience but for transportation service it is more enhanced rather than created than completely new.
Barbara
Can you describe Augmented Reality?
Teresa
I haven't used it yet, but I have know what is an Augmented Reality app.
Barbara
And how would you, in your opinion say it creates a new experience?
Teresa
Because it gives you a completely different attraction compared to what you have in your mind because of what Zory in the presentation showed, we can see that by using Augmented Reality you can, the idea of you go to a museum and you can see a whole different things, maybe you can put on a glass or an eye lens, and then you can see different things or information from that specific centuries and in this part of the coliseum or this part of the town and this is really different of what you had before and also I read somewhere that Augmented Reality can be apply to a voice, maybe in a distant future you can talk in your language and the other will hear another language, that kind of thing which is a completely new experience of the enhancement.
Barbara
You said before you also get information that you didn't know existed, where does this fit in? with technology it might change your planning, is that assist, enhance or new?
Teresa
In the examples? I think it is also enhance, because with the information that I get with ICTs you are being in a city and you want to find a café and when you google or you find that there is this quirky café or old café that sell something old or really different, so you don't even know that these kind of places existed in the city so yeah if you find the place I think it is more enhance, because it is like you want to go to a restaurant and because technology gives you a certain idea, you end up also in a restaurant but with an enhanced experience.
Barbara
So the experience is still the same, the restaurant is that the experience for you?
Teresa
Maybe the experience is different, more satisfied compared to what I have when not using ICTs, so yeah it gives you more by using ICTs.
Barbara
Coming back to those three words, what are the characteristics?
Teresa
I'm sure about the boost part, and the other two, informative and sharing.
Barbara
What is the biggest difference when you compare it to a non-technology experience?

Teresa
The speed of information and the content itself is much more huge where you going to find really huge and different from one another by using ICTs compared to the traditional services.

Barbara
And when you think of all these technologies available, what would your ideal Technology Enhanced Tourist Experience look like?

Teresa
My ideal experience hmm (think) it is kind of hard because sometimes I like the surprise element in my journey and another time I want to be settled to know where I am and what I'm going to do. So I think the ICTs will help me, when they can provide information about, I think are we talking about existing technology or what I imagine. Maybe first the one that can be accessed on flying sometimes when we are going abroad, we don't have Wi-Fi service, we can't access the information, even though we need it. And as far as I know the one information that I can access on my mobile phone when flying is only my language translation and apart from that I can't really use like the list of café or restaurants that I want to visit.

Barbara
So imagine if all that was possible, what would the ideal experience look like?

Teresa
Technology will be so much helpful and make it easier for me to travel to one place to another, so when I have access to internet all the time and without worrying about roaming or Wi-Fi service, it is all the easier to travel around, using all the applications integrated into, it is not possible for all the applications to be integrated, so I know that I can use public transportation service and I can also find accommodation around and attractions around me, so maybe they can locate me on location based services, they can offer me what attractions or accommodation are around with a certain price range or certain ambience they offer. So maybe when I'm in a place and the information came to me so I have the option to choose rather than I'm the one to looks for information, I don't know, I haven't experienced it, but the idea that the information came to me with a certain range of information that would suit my needs.

Barbara
So you would like to determine the set information?

Teresa
Yeah at the beginning I will set my price range and then my preference of the ambience or the theme of the accommodation or attraction, maybe I'm into museum or shopping mall or artsy places and when I'm already ticked all the options they come up, sum it up somehow and come to me with the right information. Maybe.

Barbara
And overall form 1-5 how important is it for you to have this Technology Enhanced Tourist Experience?

Teresa
I think it is really important, so 5.

Barbara
Do you see any future developments of what will becoming really good for enhancing the experience in the future?

Teresa
Eliminate the roaming, yeah (smile) and that is really important to only use one SIM card and that we can travel abroad without worrying about the data service that will charge to us after. And I think it is important for a small café or restaurant to have maybe not a website, but just a small site in the Internet, like food.com so we can just see a picture or see a review, I mean the quantity is not important but sometimes I just

want to see like what is it like and if you cannot even find it on the web, you cannot trust it, that is my opinion if you cannot find something on the web it is too small or not many people know.

Barbara

So you want to get an impression in your pre-trip?

Teresa

Yeah, I mean maybe it is the work for a DMO to gather all the information from around to register all the cafes or the restaurants like huge number but it gives information to the potential visitor to come, yeah I think it is important just to put everything on the web, so people can access from wherever.

Barbara

Ok great, that's it with my questions.

End of the Interview

Appendix 9: Phase 3: NVivo Conceptual Framework Coding Structure

Meta-Themes 1	*Sub-Codes Level 2*	*N Sources*	*N References*
1. Experience Co-Creation	1. B2C Co-Creation	15	21
	2. C2C Co-Creation		
	3. C2F Co-Creation		
	4. Co-Creation Context		
2. Context	5. Country-Familiarity	15	144
	6. Holiday Type		
	7. Situational Factors		
	8. Travel Company		
	9. Travel Persona		
3. Need	10. Need Arousal	12	112
	11. Situational Needs		
	12. Tourist Needs		
4. Travel Stages	13. Pre-Stage	15	231
	14. Transit-Stage		
	15. During-Stage		
	16. Post-Stage		
5. Technology	17. Future Opportunities	15	707
	18. Source Offline/Online		
	19. Technological Issues (Experience Barriers)		
	20. Technology Adoption		
	21. Technology Attitude		
	22. Technology Benefits (Experience Enablers)		
	23. Technology Features (ICTs Itself)		
	24. Technology Type		
	25. Technology Use		
6. Technology Enhanced Tourist Experience Enhancement Process	26. Booking	15	913
	27. Connecting - Disconnecting		
	28. Engaging - Communicating		
	29. Decision-Making		
	30. Finding-Locating - Location		
	31. Information Searching - Pushing		
	32. Inspiration		
	33. Navigation		
	34. Personalising		
	35. Planning		
	36. Recommendation - Passive		
	37. Reconstructing - Forward Planning		
	38. Review - Active		
	39. Sharing		
	40. Storing		
	41. Transportation		
7. Technology Enhanced Tourist Experience Enhanced Experience	42. Enhancement Factors	15	404
	43. Experience Output		
	44. Experience Attributes		
	45. Experience Outcome		
8. Additional	46. Undefined	13	34
	47. Tourist Experience		

Appendix 10: Phase 3: NVivo Coding-On Excerpt Levels 1-7

Meta-Theme 1	Coding Level 2	Coding Level 3	Coding Level 4	Coding Level 5	Coding Level 6	Coding Level 7
TECHNOLOGY ENHANCED TOURIST EXPERIENCE						
	Enhancement Process					
		Tourist Activity Performance				
			Geographical Navigation & Discovery			
				Check-in		
					Location online check-in	
					Recognition check-ins	
					Security - declaration location friends	
					Self-expression - fancy location check-in	
					Social competitiveness and playfulness	
					Social encounters network	
				Geographical discovery		
					Discovery - alternatives (places others do not go) (geographical authenticity)	
					Discovery - authentic places (by tech)	
					Geographical connection - connected with locals (AirBnB)	
					Geographical discovery - proximity surroundings	
					Geographical occurrences (what happens around me)	
					Geographical opportunities (deals, offers)	

					Territorial recognition and education (what is this)	
					Territorial necessities (toilet, parking, info)	
				Geographical positioning and navigation		
					Find best directions	
					Geographical positioning	
					Independent geographical routing	
					Navigating to poi short and quick	
					Navigation - not getting lost	
			Information Search			
				Active Search information		
					During-travel information	
						Activities in area
						Best things to do
						News
						Specific local information
						Local information
						Transport information
					Pre-travel information	
						Inspiration
						Offers and deals
						Pre-travel comparison
						Pre-travel information (weather, flights, prices, directions)
						Pre-travel personal network advice
						Up-to-date destination information

Appendix 11: Phase 3: NVivo Final Coding Structure

Meta-Theme 1	Coding Level 2	Coding Level 3	Nr. Sources	Nr. References
CO-CREATION			**15**	**875**
	C2B Co-Creation		14	254
		Willingness C2B Co-Creation		
		People C2B Co-Creation		
		Process C2B Co-Creation		
		Outcomes C2B Co-Creation		
	C2C Co-Creation		12	105
		People C2C Co-Creation		
		Process C2C Co-Creation		
	C2F Co-Creation		15	363
		People C2F Co-Creation		
		Process C2F Co-Creation		
		Outcome C2F Co-Creation		
	C2L Co-Creation		8	110
		People C2L Co-Creation		
		Process C2L Co-Creation		
	Co-Creation Comparison		13	43
		Limitations C2B		
		Limitations C2C		
		Value Comparison		
EXPERIENCE ENHANCEMENT PROCESS			**15**	**2035**
	Context		15	265
		Contextual Variables		
		Geographical Context		
		Tourist Persona		
		Travel Party		
	Needs		15	406
		Need Triggers		
		Needs		
	Tourist Activity		15	1122

	Enhancement			
		Booking		
		Decision-Making		
		Geographical Navigation & Discovery		
		Information Search		
		Inspiration		
		Planning		
		Recommendation - Passive		
		Review - Active		
		Sharing		
		Socialising & Engaging		
		Transit & Transportation		
	Enhancement Process Outcome		15	242
		Enhancement Outcomes		
		Enhancement Process Intensity		
TECHNOLOGY			**15**	**1088**
	Technology Type		15	530
		Mobile OS		
		Hardware-Device		
		Internet		
		Social Media		
		Applications		
		Types of Sources		
	Technology Issues		15	509
		Attitude towards Technology		
		Technological Issues (Experience Barriers)		
		Technological Benefits (Experience Enablers)		
		Future Opportunities/Enablers		
	Technology-Non-Technology Source Hierarchy		14	49
TRAVEL STAGES			**15**	**231**
	Pre-Stage		15	62
	Transit-Stage		10	16

	During-Stage		15	117
	Post-Stage		15	36
TECHNOLOGY ENHANCED TOURIST EXPERIENCE			**15**	**2230**
	Enhancement Granular Elements Tourist Experience		15	204
		TETE Enhancement		
		TETE Neutral		
		TETE Diminishment		
	Technology Enhanced Tourist Experience Factors		15	1630
		Connectedness & Closeness		
		Convenience & Efficiency		
		Education & Information		
		Independence & Control & Safety		
		Individualisation & Personalisation		
		Locality & Authenticity & Territoriality		
		Novelty & Playfulness & Companionship		
		Serendipity & Unexpectedness & Discovery		
		Sociality & Social Engagement		
		Timeliness & Real-Time		
		Timelessness & Memoralisation		
		Ubiquity & Mobility & Synchronisation		
	Experience Outcomes		15	248
		Achievement & Personal Growth		
		Confidence, Reassurance & Calmness		
		Contentment & Happiness		
		Personal Recognition & Privilege		
		Self-Esteem & Narcissism		
		Sense of Responsibility & Altruism		
		Value		
	Experience Attributes		13	88
		Enhanced & Intense		
		Intriguing & Exciting		

		Outstanding & Superior		
		Smooth & Up-to-date		
	Experience Outcome Impacts		12	60
		Positive Impacts		
		Negative Impacts		

Appendix 12: List of Conference Presentations

Conference Presentations of PhD Thesis 2011-2014			
Conference	***Presentation Title***	***Date***	***Location***
2014			
Brennpunkt eTourism 2014	Experiences, co-creation & technology: Creating enhanced customer experiences	October 2014	Salzburg, Austria
BU Festival of Learning: eTourism Innovations in the Digital era	Experiences, co-creation & technology: Creating enhanced customer experiences	June 2014	Bournemouth, UK
ENTER 2014 Conference	Co-creation through technology: Dimensions of social connectedness	January 2014	Dublin, Ireland
ENTER PhD Workshop 2014	The technology enhanced tourist experience	January 2014	Dublin, Ireland
2013			
Forum on the Future of Management in the 21st Century	The experience economy of the 21st century: Innovation through technology-enhanced tourism experiences	November 2013	Adelaide, Australia
IFITT Doctoral Summer School 2013	Technology enhanced tourist experiences	July 2013	Bournemouth, UK
Bournemouth University: eTourism Innovations in the Digital era	Technology enhanced tourist experiences	June 2013	Bournemouth, UK
Annual BU Postgraduate Researcher Conference	Technology enhanced tourist experiences	April 2013	Bournemouth, UK
CAUTHE 2013 Conference	Experiences, co-creation and technology: A conceptual approach to enhance tourism experiences	February 2013	Christchurch, New Zealand
ENTER 2013 Conference	High tech for high touch experiences: A case study from the hospitality industry	January 2013	Innsbruck, Austria
ENTER PhD Workshop 2013	Revisiting the tourist experience: An exploration of the technology-enabled enhanced tourist experience	January 2013	Innsbruck, Austria
2012			
Brennpunkt eTourism 2012	Using icts to enhance tourist experiences in three stages of the travel	November 2012	Salzburg, Austria
IFITT@WTM 2012 Technology enabling Travel	The technology enhanced tourist experience	November 2012	London, UK
2nd Advances in Hospitality and Tourism Marketing & Management Conference	Understanding and managing technology-enabled enhanced tourist experiences	May 2012	Corfu, Greece
BU PGR Conference 2012	The technology enhanced tourist experience	June 2012	Bournemouth, UK
BU School of Tourism Poster Workshop	The technology enhanced tourist experience	May 2012	Bournemouth, UK
IFITT@EyeforTravel Travel Distribution Summit Europe 2012	The technology enhanced tourist experience	April 2012	London, UK
PhD Research Colloquium	The technology enhanced tourist experience	April 2012	Exeter, UK
ENTER PhD Workshop 2012	Revisiting the tourist experience: An exploration of the essence of the technology-enabled enhanced tourist experience	January 2012	Helsingborg, Sweden

Appendix 13: List of Publications

Publication in relation to the PhD Thesis 2011-2014
Journal Articles
(1) Neuhofer, B., Buhalis, D. and Ladkin, A. 2015. Smart technologies for personalized experiences: A case study in the hospitality domain. *Electronic Markets: The International Journal on Networked Business.*
(2) Neuhofer, B., Buhalis, D., Ladkin, A. 2014. A typology of technology-enhanced tourism experiences. *International Journal of Tourism Research*, 16 (4): 340-350.
(3) Neuhofer, B., Buhalis, D., Ladkin, A., 2012. Conceptualising technology enhanced destination experiences. *Journal of Destination Marketing & Management*, 1 (1–2): 36-46.
Book Chapters
(1) Neuhofer, B. Forthcoming, 2015. Innovation through co-creation: Towards an understanding of technology-facilitated co-creation processes in tourism. In: Egger, R., Gula, I., Walch, D. (eds.) *Open Tourism: Open Innovation, Crowdsourcing and Collaborative Consumption challenging the tourism industry*. (Status: Accepted Oct. 2014)
(2) Neuhofer, B. and Buhalis, D. 2014. Experience, co-creation and technology: Issues, challenges and trends for technology enhanced tourism experiences. In: McCabe, S. (ed.) *Handbook of Tourism Marketing*. London, Routledge, pp. 124-140.
Conference Papers and Proceedings
(1) Neuhofer, B., Buhalis, D. and Ladkin, A. 2015. Technology as a catalyst of change: Enablers and barriers of the tourist experience and their consequences. In: Tussyadiah, I. and Inversini, A. (eds.), *Information and Communication Technologies in Tourism* 2015, Vienna: Springer Verlag, pp. 789-802.
(2) Neuhofer, B., Buhalis, D. and Ladkin, A. 2014. Co-creation through technology: Dimensions of social connectedness. In: Xiang, Z. and Tussyadiah, I. (eds.), *Information and Communication Technologies in Tourism* 2014, Vienna: Springer Verlag, pp. 339-352.
(3) Neuhofer, B., Buhalis, D. and Ladkin, A. 2013. Experiences, co-creation and technology: A conceptual approach to enhance tourism experiences. *Proceedings of Cauthe* 2013, pp. 546-555.
(4) Neuhofer, B., Buhalis, D. and Ladkin, A. 2013. High tech for high touch experiences: A case study from the hospitality industry. In Cantoni, L. and Xiang, Z. (eds.), *Information and Communication Technologies in Tourism* 2012, Vienna: Springer Verlag, pp. 290-301.
(5) Neuhofer, B. and Buhalis, D. 2012. Understanding and managing technology-enabled enhanced tourist experiences. *The 2nd Advances in Hospitality and Tourism Marketing & Management*, Corfu, June. ISBN 978-960-287-1393.
Professional Industry Reports
(1) Neuhofer, B. and Buhalis, D. 2013. Technology enhanced tourism experiences: 10 best practice examples explained. *Digital Tourism Think Tank.* Accessible: http://thinkdigital.travel/best-practice/technology-enhanced-tourism-experiences/.

Appendix 14: Publications in Relation to this Thesis

Appendix 14 includes the publications that were published in relation to this thesis. The publications represent the author's final version and are sorted by type of article and in chronological order (in ascending order from the most recent to the oldest), as shown in the List of Publications in Appendix 13.

Appendix 14.1: Journal Article 1

Neuhofer, B., Buhalis, D. and Ladkin, A. 2015. Smart technologies for personalized experiences: A case study in the hospitality domain. *Electronic Markets: The International Journal on Networked Business*.

Smart technologies for personalized experiences: A case study in the hospitality domain

Abstract

Recent advances in the field of technology have led to the emergence of innovative technological smart solutions providing unprecedented opportunities for application in the tourism and hospitality industry. With intensified competition in the tourism market place, it has become paramount for businesses to explore the potential of technologies, not only to optimize existing processes but facilitate the creation of more meaningful and personalized services and experiences. This study aims to bridge the current knowledge gap between smart technologies and experience personalization to understand how smart mobile technologies can facilitate personalized experiences in the context of the hospitality industry. By adopting a qualitative case study approach, this paper makes a two-fold contribution; it a) identifies the requirements of smart technologies for experience creation, including information aggregation, ubiquitous mobile connectedness and real time synchronization and b) highlights how smart technology integration can lead to two distinct levels of personalized tourism experiences. The paper concludes with the development of a model depicting the dynamic process of experience personalization and a discussion of the strategic implications for tourism and hospitality management and research.

Introduction

Smart technologies have become pervasive in electronic markets across a number of areas, including the financial sector, retail and tourism (Alt & Klein 2011). Smart technology, implying the terms intelligent and smart, commonly refers to a product, condition or motion of a technology that entails a variety of functionalities that can be adapted to specific circumstances (Worden et al. 2003). With the advancement of society and industries and the proliferation of information and communication technologies (ICTs), smart technologies have received widespread interest in the tourism domain, despite its limited application to date. In recent years, technological developments have caused a transformation in that they have opened new opportunities for how tourism and hospitality experiences can be created (Tussyadiah & Fesenmaier, 2009; Wang, Park & Fesenmaier, 2012). Technologies are no longer only functional devices of everyday life but have evolved into integral tools enabling contemporary experience creation (Gretzel & Jamal, 2009).

Recent Internet-based technologies, social networking tools and mobile technologies have allowed businesses and consumers to connect, interact and create experiences to an unprecedented scale. Particularly enforced by the new collaborative dimensions of technologies, the market place has undergone a shift towards consumers gaining increasing power and control (Alt & Klein 2011). With consumers playing a participatory role in the production and consumption process (Buhalis & Law 2008), it has become paramount for businesses to use technology to engage consumers in a more

personal way (Pine & Gilmore 1999). In this vein, Gretzel (2011) highlights the potential of intelligent systems in tourism to meet tourists' personal and situational needs.

Yet, the understanding of how businesses can strategically integrate smart technologies to meet the rising consumer demands for experiences is limited (Gretzel & Jamal, 2009). Recent work recognizes the potential of technologies for more personalized experiences, such as the role of smartphones for travel and the mediation of the tourism experience (Wang et al. 2012; Wang & Fesenmaier, 2013), the use of context-aware mobile applications in tourism (Höpken et al. 2010), the use of high-tech for high-touch experiences (Neuhofer, Buhalis & Ladkin, 2013) and the adoption of mobile tour guides for personalized routes and location-relevant information (Schmidt-Rauch & Schwabe, 2013). Besides a small number of studies, research exploring intelligent systems beyond technological perspectives remain however fairly scarce (Gretzel, 2011). Based on this rationale, it is the aim of this study to bridge the gap between *smart technologies* and *experience personalization* to address the underlying research question of "*whether* and *how* smart technology can facilitate personalized experiences in the context of the tourism and hospitality domain". As its main contribution, the study develops an integrated model depicting the requirements and processes of smart mobile technology necessary for the creation of personalized experiences.

The paper first assesses the current literature on smart technologies and the creation of experiences in the tourism and hospitality domain. It then goes on to outline the research design of a qualitative case study approach, presents the research findings and develops an integrated process model. Finally, it highlights several critical managerial implications and discusses limitations and suggestions for further research.

Literature Review

Smart Technologies in Tourism and Hospitality Domain

Definition of Smart Technologies

While the terms 'smart' and 'intelligent' have been commonly applied in theory and practice, there is a limited understanding of their meaning and differentiation. Smart technology, implying the word intelligent, commonly describes a new product, referring to the environment, condition or motion of technology that adapts to certain functions or is tailored to specific circumstances (Worden, Bullough & Haywood, 2003). Intelligent systems have been defined as systems with the two-fold ability to sense the environment and learn actions to achieve particular goals. In the context of tourism, intelligent systems have been framed as autonomous systems that anticipate user needs and encompass comprehensive and specific knowledge adaptable to consumer input (Gretzel, 2011). Besides several attempts, the concept of smart technology remains scarcely conceptualized beyond technological fields and definitions remain largely ambiguously defined (Lee, 2012a).

With the increasing pervasiveness of technology throughout industries, the application of smart technologies has become a main focus of attention. Particularly due to the convergence of the offline and online world, smart technologies have created a new space for business opportunities in a number of sectors (Lee, 2012a), including health home systems (Patsadu, Nukoolkit & Watanapa, 2012) retail store usage (Lee, 2012b), urban governance (Himmelreich, 2013), the context of design education (McCardle, 2002) and energy monitoring in hotels (Rogerson & Sims, 2012). In these contexts, smart technologies have been portrayed as instrumental tools with specific functionalities that add value in several ways. For instance, the implementation of QR

codes can support consumers in retail settings (Lee, 2012b), while the combination of sensors, tags, RFID, semantics and cloud computing is used in the establishment of a smart city (Komnios, 2013). Beyond the health, energy, retail and public sectors, the concept of smart technologies has received increasing attention in tourism, as a dynamic domain characterized by constant need for innovation (Zach, Gretzel & Xiang, 2010).

Technological Developments in Tourism

The tourism industry as a fast-growing market has always been at the forefront of technology (Sheldon, 1997) and shown interest in developing synergies between technology and tourism (Buhalis & Law, 2008). Consequently, the technological advances of the past decades have shaped the ways in which the tourism industry operates (Buhalis, 2003; Middleton, Fyall, Morgan & Ranchhod, 2009). Businesses have undergone a major re-engineering of structures, processes and strategies to take advantage of the full potential offered by emerging ICTs (Wang, Fesenmaier, Werthner & Wöber, 2010). Technologies have become a driver determining the operations of tourism organizations (Buhalis, 2003; Buhalis & Law, 2008), a key element in the innovation of products, processes and management (Hjalager, 2010) and an enabler of the attraction and retention of visitors (Werthner & Klein, 1999). In essence, the plethora of ICTs enabled to reduce costs, increase the speed of transactions, provide customization, facilitate innovation and allow for new business models to develop (Buhalis & Jun, 2011). More recently, the advent of the Web 2.0 and the range of social networking applications has implied even more drastic changes by turning the Internet into an immense space of empowered consumers, social interactions and collaboration (Sigala, 2009; Gretzel & Jamal, 2009; Poslad et al, 2001). In line with growth of consumer demands and the fast developments in the technology sector, businesses have sought to identify new ways to innovate by adopting smart technologies that facilitate experiences and meet the requirements of contemporary consumers in the tourism market place.

Evidence of Smart Technology in Tourism

Recently emerged mobile solutions, such as location-based services (Neuhofer, 2012), context-based services (Lamsfus, Grün, Alzua-Sorzabal & Werthner, 2010) and augmented reality applications (Yovcheva, Buhalis & Gatzidis, 2013) have been increasingly implemented to assist tourists with navigating, finding locations, retrieving information and making bookings and reservations. Through a range of hardware devices and software platforms and applications, businesses and consumers have become interconnected in the travel process, resulting in more meaningful interrelations and a convergence of people, technology and more personalized tourism experiences (Neuhofer, Buhalis & Ladkin, 2012).

A number of studies have showcased innovative solutions of smart technology application in tourism. For instance, CRUMPET, a system aiming to provide new information delivery and service integration, combines four main aspects of tourism: personalized services, ‘smartware’ with multi-agent technology, location-aware services and mobile data communication (Poslad et al., 2001). Additionally, several innovative destination management organizations (DMOs) have demonstrated the successful implementation of a range of smart technologies. For instance, the destination Seoul adopts a mix of ICTs, including a visitor website with an interactive map for pre-arrival information, Facebook and Twitter for customer engagement and a mobile application functioning as a city guide. Montreal offers an interactive video that takes tourists virtually through different destination experiences, while Las Vegas provides itinerary

personalization and New Zealand presents an online interactive trip planner with customizable maps, price ranges and activities (Buhalis & Wagner, 2013).

These are only a few examples that underline how tourists, empowered by smart technologies, are able to turn into connected and active participants in a technology enabled service environment (Gretzel et al. 2006; Andersson, 2007). ICTs have been central in facilitating platforms of interaction between businesses and consumers (Hultkrantz, 2002), through which dialogues occur (Buhalis & Licata, 2002), personalization can be fostered and more meaningful experiences can potentially be created (Binkhorst & Den Dekker, 2009). In exploiting these possibilities, tourists can be integrated throughout the entire value chain (Prahalad & Ramaswamy, 2004) to customize a wide range of service encounters according to their contexts (Lamsfus, Grün, Alzua-Sorzabal & Werthner, 2010), needs and personal preferences (Niininen, Buhalis & March, 2007).

Creation of Tourism and Hospitality Experiences

Customer Empowerment in Experience Creation

In recent years the discussion, conceptualisation and exploration of experiences has increased considerably. Consumers no longer seek to only purchase products and services but are in quest for experiences obtained through the consumption of products and services (Morgan, Lugosi & Ritchie, 2010). With the gradual commoditization of goods and services, the market has turned to the pursuit of experiences as a means of providing consumers with added value and fostering competitive advantage (Pine & Gilmore, 1999). Particularly enforced by the advances of technology, a shift towards consumer-centric perspectives has been induced, in which consumers occupy the central role in both the co-creation and consumption of their experiences (Ritzer & Jurgenson, 2010). Instead of receiving pre-designed experiences, consumers have become central actors that integrate their resources in the co-creation of experiences and value (Ramaswamy & Gouillart, 2008; Vargo & Lusch, 2008). ICTs have played a key role in advancing the relationship between producers and consumers (Shaw, Bailey & Williams, 2011) and empowering consumers in the conjoint creation of their experiences (Ramaswamy & Gouillart, 2008; Buhalis & Law, 2008). Thus, the main question for businesses is how to strategically integrate smart technologies to allow for the co-creation of valuable consumer experiences.

Technology for Personalized Experience Creation

For this process to occur, innovative mechanisms and tools are needed that allow businesses to facilitate the right customer service in the right space at the right time (Gonzalez, Lopez & De la Rosa, 2004). To enhance the level of personalization, a constant evaluation of consumers, and their inherent preferences, while interacting in a service particular context is required (Gupta & Vajic, 2000). This means that it is critical to collect, evaluate and respond to relevant information concerning consumer needs and preferences. A number of studies underline the role of ICTs in this process. For instance, ICTs enable extended business to customer (B2C) interactions (Buhalis & Law, 2008; Egger & Buhalis, 2008) and allow for the collection of information in an unobtrusive and cost-effective way (Raento, Oulasvirta & Eagle, 2009). When strategically implemented, Piccoli, O'Connor, Capaccioli and Alvarez (2003) claim that companies can use ICTs to collect, consolidate, manipulate and analyze consumer needs on an unparalleled scale to maximise tailor-made experiences.

Experiences in the Tourism and Hospitality Domain

Experiences have constituted an important concept in both tourism production and research for more than five decades (Uriely, 2005). In fact, the creation of positive experiences has been described as the very essence of the hospitality industry (Pizam, 2010). While diverse factors, such as location and price might provide significant criteria in the selection of a hotel, *experience* constitutes the key factor determining the choice of a hotel (Barsky & Nash, 2010). As such, Tung and Ritchie (2011, p. 1369) highlight the need to "facilitate the development of an environment (i.e., the destination) that enhances the likelihood that tourists can create their own memorable tourism experiences". The implementation of smart technology solutions can become a potential catalyst of change that turns standardized services into personalized experiences based on the tenet of 'treating different consumers differently' (Piccoli et al., 2003). In this vein, van Limburg (2012) urges tourism businesses to embrace ICTs for experience personalization, despite the fact that it is still limited in practice. It is with this premise in mind that this research explores the implementation of smart technology for the creation of personalized experiences in tourism and hospitality.

Research Design

A qualitative case study approach was employed to develop a comprehensive understanding of smart technologies for the creation of personalized experiences. The choice of a case study methodology has been determined as critical to examining leading best practice cases of the industry (Binkhorst & Den Dekker, 2009). Whilst 'best practice' generally represents a vague term, it has become frequently used in the business context to describe leading industry cases as role models to increase success (Hallencreutz & Turner, 2011). Given the scarce practical, and in turn theoretical, knowledge about businesses implementing technology for experience creation to date (Tussyadiah & Fesenmaier, 2007), the adoption of a case study was decisive to gather the necessary practice insights, explore and explain current practices and address the research problem at hand.

The case study was selected based on two main pre-defined criteria. First, the company had to be embedded in the tourism and hospitality context and second, it had to represent a best practice example by providing evidence for the current successful realization of technology-enhanced experiences. The Hotel Lugano Dante with its unique HGRM platform was selected as a best-practice case based on a number of factors underlining its far-reaching recognition in the tourism industry. Among the most recent acknowledgements, it has been awarded for its customer excellence at the ENTER 2012 Conference and it has received two TripAdvisor Traveller's Choice 2013 awards recognising the hotel among the number five hotels in Switzerland overall and number one hotel in Switzerland for service excellence.

Following the principles of case study research, the core focus was on the "process rather than outcomes, in context rather than a specific variable, in discovery rather than confirmation" (Merriam, 1998, p. 19). In order to develop a comprehensive understanding, a mix of qualitative methods drawing from multiple sources of evidence was employed (Yin, 2003). The threefold methodology consisted of documentary material, informal interviews and consumer online reviews. First, an assessment of documentary material was conducted, including company background information, presentation slides and written notes from a presentation held at a dedicated workshop on the topic of technology and experiences, to understand the practical processes underpinning the technological solution and its use. Second, an unstructured interview lasting approximately one hour was conducted with a management representative of the

hotel to gather insights into the company's role, philosophy and principles supporting the development of the smart technology. Third, an examination of online consumer reviews on the platform TripAdvisor was performed in April 2012 to capture consumer evaluations of their personalized experiences. This threefold data collection process allowed for a triangulation of the findings, which enhanced the construct validity and allowed for the development of a comprehensive understanding of the smart technology and experience creation processes in the context of use.

Findings and Discussion

This section presents the findings of the hospitality case study. First, the analysis provides an organizational outline of the case study. Second, it reveals the technological requirements of smart technology for personalized experience creation and third, it conceptually differentiates two main levels of personalized tourism experiences.

Smart Hospitality Case Study - Organizational Outline

The Hotel Lugano Dante is a 4 star hotel located in the city centre of Lugano, Switzerland, comprising a total of 83 rooms and 42 employees, leading to a total amount of 750,000 individual consumer interactions per year. The smart technology under investigation is the HGRM - Happy Guest Relationship Management system. In terms of the technological mechanisms, the HGRM system essentially constitutes a comprehensive customer relationship management (CRM) database, which functions as a meta-platform that combines several hotel operation systems. It merges the data received from the property management system (PMS) Fidelio, outlook, the guest's intranet site MyPage and all operations platforms into one database. By doing so, the HGRM provides a centralized solution that unifies all internal and external information exchanges, transfers and interactions among the hotel staff and between the hotel and its guests. As the system covers processes of the entire customer journey, i.e. pre-arrival, in-house and post-departure stage, it encompasses a myriad of service encounters, also referred to as touch-points, which are presented in their chronological order next.

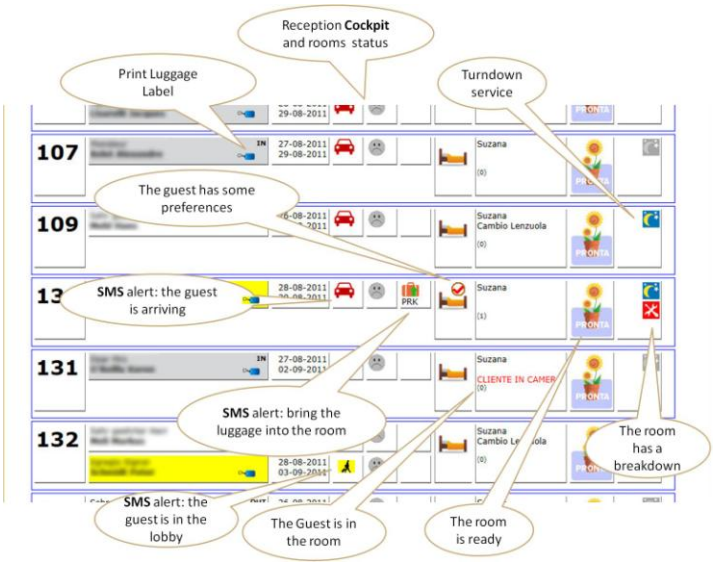
First, in the pre-arrival stage guests receive an invitation upon confirmation to access their personalized guest website (MyPage). From this point onwards they are given a choice of whether or not they desire to personalize their stay. In case guests are willing to share personal information in exchange for experience personalization, they can independently manage their MyPage website to communicate with the hotel, virtually meet the team and engage with hotel employees, manage details of their stay and select personal preferences. These include, for instance, the customization of room temperatures and bed, extra soft towels, organic bathroom sets, air cleaner, drinks and snacks in the mini-bar, special equipment for children, or the selection of the favourite newspaper.

Second, once the guest arrives at the hotel, a vast number of touch points are encountered in the different departments of the hotel, including the reception, housekeeping, restaurant, maintenance, bar, marketing, welcome, garage and parking. At these encounters, the hotel (and its individual employees) and the customer (the individual guest), interact for service experiences to be co-created (B2C). In adopting an employee-centric approach, each employee is empowered, equipped and instructed to access and use the HGRM smart technology platform through dedicated mobile devices. In the service delivery process, the HGRM enables employees to retrieve guest names and profiles, service and communication history, room status and personal preferences. By doing so, they are able to retrieve, modify and add up-to-date guest information obtained through one service encounter, which is instantly synchronized to all departments from one encounter to the next. In order to offer a detailed technological

and practical understanding of the technology, Figure 1 demonstrates a screenshot of the HGRM interface in use. It depicts guest room numbers and names together with the current room status, any special preferences, real-time message alerts, such as luggage transfer and the guest's current location in the hotel. In managing all service encounters on this integrated platform, employees are in full control to see what is happening and what action is required to turn a *simple service routine* into a *personalized guest experience* by proactively anticipating as well as dynamically responding to the emerging needs and preferences of the guest.

Third, in the post-departure stage, guests are sent a welcome-home message through their MyPage website, which includes a personalized thank-you note, a picture of the employee who has performed the check-out, a contact email address for concerns and an invitation to leave a review on TripAdvisor. While in this stage no further personal information is collected, the principal purpose of this stage is to maintain the established relationship, reflect on the experience and keep the personal dialogue on going on social media platforms.

Figure 1. HGRM Platform Cockpit



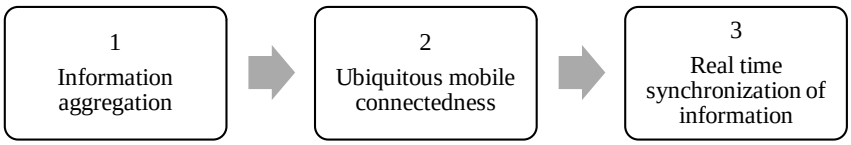
Source: Hotel Lugano Dante

Requirements of Smart Technologies for Personalized Experiences

In order to develop the foundations for a practical and theoretical understanding of personalized experience creation it is critical to analyze the technological prerequisites of smart technologies. The general goal of smart technologies is to assess the environment and facilitate processes to be conducted in smarter, more efficient, useful and effective manner. By using smart technologies in tourism, the ultimate goal is to enhance experiences, generate added value and increase competitiveness (Neuhofer et al2012). The following section outlines how the HGRM platform functions as an integral tool of the overall experience co-creation and facilitation process. The qualitative analysis revealed the presence of three main technological requirements, which include a) information aggregation, b) ubiquitous mobile connectedness, and c) real time synchronization of information. These are graphically highlighted in Figure 2 and discussed next.

Appendices

Figure 2. Requirements Smart Technologies for Personalized Experiences



1. Information aggregation

The systematic aggregation of consumer information to facilitate service personalization is paramount (Shen & Ball, 2009). The findings reveal that the Hotel Lugano Dante allows for the exchange of information throughout the entire service chain, prior to the guests' arrival, during the hotel-stay and in the post-departure stage. The need for consistent information collection is in line with previous studies confirming the value to gather information in all stages, before, during and after the travel (Buhalis & Law, 2008). The contact prior to the guest's arrival proves to be critical to gather a-priori information through the guests' MyPage site. This website primarily serves the purpose of establishing initial contact, engaging and collecting information about special needs, requirements and preferences. In this stage, information is gathered from consumers and stored in the company's central HGRM database platform (C2B). According to the Hotel Lugano Dante, a-priori information aggregation is indispensable for preparing a personalized experience on-site. At the same time, it appears that consumers value the possibility to state their preferences prior to the stay: "You can pick your preferences amongst many choices: pillows, sheets, heating system, car parking, extra towels and stuff like that. This is UNIQUE" (Consumer Review TripAdvisor).

While privacy of personal information constitutes a major concern in personalization, which needs to be treated with the necessary care (Shen & Ball, 2009), the findings reveal that consumers are generally willing to share personal information if it leads to better services being provided. The findings further underline that information collection is a prerequisite not only to co-create better experiences, but add further value in developing more personal relationships, making guests feel special, anticipating their needs to facilitate multiple valuable service encounters during the guests' entire stay. HGRM thus represents a solution that collects information, after asking permission, and uses that specific information to create guest experiences in a meaningful way. What renders the HGRM a smart technology is that it enables to aggregate, store and update information on one centralized platform that can be accessed, situation-specific, by all employees to personalize experiences on the spot.

2. Ubiquitous mobile connectedness

In the hospitality environment, numerous human encounters and service transactions take place. The case study indicates that such encounters occur throughout a variety of departments, comprising reservations, reception, housekeeping, breakfast, maintenance, bar, marketing, welcome, sales, and revenue. According to the Hotel Lugano Dante, the number of encounters in their hotel amounts up to 750,000 single interactions per year. Given the complexity and interdependence of departments, employees and guests, one key requirement of smart technology is the factor *mobility*. This means that the technology needs to be portable, mobile and accessible for the service delivery by anyone, anywhere and at anytime.

The HGRM represents a solution that facilitates such encounters due to one of its core features, namely its ubiquitous mobile connectedness. As all employees are equipped with a portable device (iPads and iPhones), they are constantly interconnected and can access guest information through the HGRM cockpit at a single glance. It allows them

to communicate, retrieve existing information as well as modify, add and upload new information at the moment of the encounter, on the move. Due to its mobile nature, experience facilitation is no longer restricted to static desktop access (e.g. restricted to the reception counter), but can be performed ubiquitously in the hotel according to the guest's location.

For instance, such encounters include welcoming guests at the reception, greeting guests by their names in the lobby, finding them a table in the restaurant, delivering their preferred newspaper or serving their favorite drink at the bar. The HGRM thereby allows for two core functionalities, mobility of the technology itself and mobile connectedness of the hotel and its individual employees. The importance of these features are in line with latest studies, testifying the opportunities of mobile solutions and their exploitation for service delivery, particularly as mobile access and wireless become more common (Schmidt-Rauch & Schwabe, 2013). In fact, always-on connectivity enables enormous opportunities to enable interactivity and provide personalized, contextualized, and location based services (Buhalis & Law, 2008). Mobility and ubiquitous connectedness hence constitute key prerequisites in the creation of personalized experiences as to allow employees to a) retrieve, access and facilitate guest needs along multiple service touch points and b) dynamically address these in the right place and at the right time on the move.

3. Real time synchronization of information

The HGRM platform can be accessed through multiple computers and mobile devices that function as a cockpit for employees to aggregate information throughout every department. For instance, while one employee can manage the guest's room status (ready or not), someone else can locate the guest (in the room, lobby, restaurant), transfer the luggage (to lobby or room) or manage guest arrivals and requests (at the reception) at the same time. By being connected not only to mobile, but most importantly, synchronized cockpits at all times, information can be exchanged among employees in real time. Thereby, the smart technology features two main functionalities, namely a) the adaptation of existing information based on changing needs and b) the addition of incoming needs and preferences on the spot.

This has critical implications on the way consumer experiences can be created. Experiences are no longer static and pre-designed in advance by the hotel provider, but are dynamically co-created and personalized between guests and employees at the service encounter in real time. The essential prerequisite for smart technology is real time synchronization, which implies drastic changes as to how information is processed. Information is not limited to a-priori collection but can be collected and updated at the face-to-face encounter in real time. For the tourism and hospitality context, this means that dynamic timing for an agile and flexible service delivery can become a key factor for competitiveness (Rust & Oliver, 2000). In fact, in their work about technology-mediated personalization, Shen and Ball (2009) point out that continuity personalization is one of the areas offering most potential for the future, albeit not being an easy endeavor to realize in practice. The findings of the case study demonstrate that the HGRM platform allows for dynamic data aggregation and real time synchronization, which in turn permits 'continuity personalization' through continuous learning processes of guest information at all times.

In order to provide a detailed practical overview of how smart technology facilitate personalized experiences, Table 1 has been developed. Based on common HGRM service scenarios, it presents a comparison of experience creation processes between

non-technology versus smart technology use to underline the differences in the experience creation while adopting a smart technology solution.

Table 1. Smart Technology Processes Comparison

Smart Technology Processes Comparison		
Experience Creation Scenario	**Non-Technology (old)**	**Smart Technology (new)**
Scenario: Room comfort	Standardized and uniform room settings	Individualized room settings to personal preferences prior to the arrival Dynamic update of preferences during the stay Dynamic update of observations by employees
Scenario: Welcome encounter	Standardized, mass or anonymous encounter	Individualized welcome by guest name Welcomed by familiar faces already introduced on MyPage prior to the guest's arrival
Scenario: Restaurant visit	Standardized service, table, name and room	Personalized welcome and greeting by name Personal F&B preferences are known Dynamic update of preferences and favorite consumption in F&B outlets during the stay

Personalized Tourism Experiences

The significance of the concept of personalization has been widely acknowledged by recent studies discussing personalized mobile services for tourism (Poslad et al., 2001), mobile tour guides for personalized routes (Schmidt-Rauch & Schwabe, 2013), user personalized destination marketing (Matloka & Buhalis, 2010) or technology-mediated personalization (Shen & Ball, 2009). The findings of the case study conform with previous research, which suggests that ICTs can foster richer (Tussyadiah & Fesenmaier, 2007) and more personalized experiences (Sandström, Edvardsson, Kristensson & Magnusson, 2008). The findings of the case study also move beyond existing studies in that they reveal that in addition to personalization, in the sense of customization, a personalized experience is also characterized by a high level of personal, one-to-one human interrelations. Accordingly, this study proposes to distinguish two levels of personalized experiences, a) personalization (customization) of experiences and b) personalized consumer-employee interactions, as outlined below.

1. **Personalized services and experiences**

Consistent with previous research, personalization of products and services addressing consumer needs represents a key concept (Shen & Ball, 2009). What matters is the "accumulation of knowledge about a consumer's needs and the utilization of that knowledge" in order to deliver high customer satisfaction (Niininen et al. 2007, p.267). The case study sheds light on this very approach is achieved by collecting need information based on which more personalized experiences are created. With respect to customer satisfaction, the findings reveal that the implementation of the HGRM platform enables the hotel to achieve all key performance indicators, including that the

reservation was accurate, the check-in took less than five minutes and no issues throughout the stay or billing errors occurred (Cornell Hospitality Industry Perspectives, 2010). In addition, through the use of the HGRM, the experience was enhanced, as guests felt recognized and treated in a personal and unique way. From a consumer perspective, this has led to several experience outcomes, including perceived added value, exceeding of guest expectations, positive feedback, customer loyalty, repeat visitation and increased advocacy through word-of-mouth and personal recommendation. A number of guest reviews from TripAdvisor confirm the perceived value of and satisfaction with their personalized experiences:

> *We were happy with the service even before we arrived, as they allow us to choose, through an email sent to us a day before the trip, many elements of our stay, from the kind of pillows we wanted to what sort of beverages we would appreciate in our minibar (Review TripAdvisor).* Another guest adds*: "You can setup your room before arrival. It's really pleasant to feel like home each time we are there" (Consumer Review TripAdvisor).*

This is in line with studies reporting that consumer profiling is crucial to lead to personalization and customization (Niininen et al., 2007). For that to happen, businesses need integrated systems to record customer and employee input at the same time. The HGRM case study represents a prime example of contemporary experience creation through smart technologies that allow for information collection, mobility and synchronization in order to shift from static to more dynamic processes of personalization.

2. Personalized interactions (E2C)

While the concept of experience personalization has been acknowledged in the past (Schmidt-Belz, Nick, Poslad & Zipf, 2002; Gonzalez et al., 2004), the findings provide evidence for a further level of personalization in the hospitality context. By adopting smart technologies, such as the HGRM, personalization goes beyond service customization in that it is realized through personal and meaningful interactions alike. Shen and Ball (2009) confirm that, if well conducted, one-to-one personalization provides a beneficial tool for customer relationship management. The personal recognition of consumers at every single service encounter is at the core of this concept. Consumer views commonly emphasize the appreciation of this level of personalization:

> *"The little details of addressing us by our names when we asked questions at the front desk showed that this hotel cared about its customers" (TripAdvisor Review). "As soon as you get there, they will call you for your exact name: Mr. Jones here, Mr. Jones there, like you were the only guest of the hotel… This also makes a difference" (TripAdvisor Review).*

Smart technologies can assist in personal encounters and make consumers feel recognized in their experiences. Additionally, the study reveals that pre-stay and post-stay, the HGRM platform facilitates personal relations through the guest's MyPage website, where contact is established, employees are introduced and the setting for long-lasting relationships is built. Guests receive information about the employees, including names, job positions and pictures, which enable them to anticipate and familiarize with the people performing the first encounter at the check-in upon arrival. This feature reduces the anonymity of conventional service provision and places the focus on meaningful one-to-one relationships.

While marketing increasingly shifts towards one-to-one ICT-facilitated practices, focusing on the individual consumer (Niininen et al., 2007), the role of single employees, as the central actors in experience creation has been under researched to

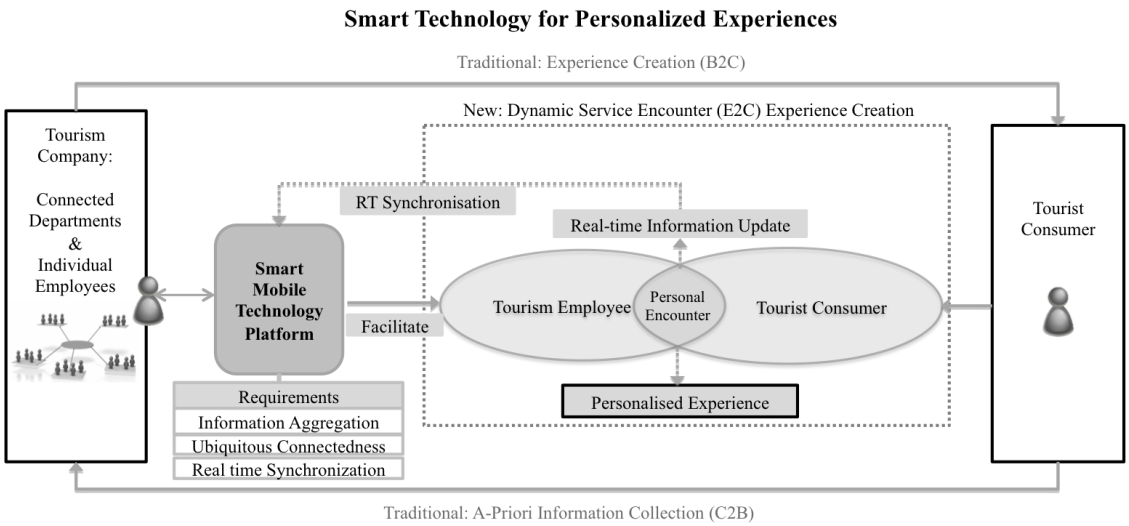
date. Most recent to date has analyzed ICTs facilitated interactions, including business-to-business (B2B), consumer-to-consumer (C2C) (Wang, Head & Archer, 2000) and business-to-consumer (B2C) interactions (Buhalis & Law, 2008; Egger & Buhalis, 2008). Going beyond these traditional relations, this case study recognizes the technology-facilitated interaction between *employees* and *consumers* as a key process in the personalization of the service delivery. As a result, the experience co-creation process is shifted from a company-central level (B2C) to the individuals who create meaningful employee-consumer (E2C) interactions.

The priority for companies thus is to empower their employees as the main actors in a more personalized, engaging and human experience encounter. In fact, the notion of one-to-one interactions corroborates with recent scholars proposing a revival of the social component in electronic markets, as consumers and other members of the society are regaining control (Alt & Klein, 2011). This study points towards the empowerment, not only of consumers but also employees as co-creating actors of personalized experiences. The goal of personalization is thus a two-fold process of a) customization of experiences and b) one-to-one interactions that are facilitated by the support of mobile, dynamic and smart technologies.

Smart Technologies for Personalized Experiences

The case study demonstrates that the implementation of a smart technology is critical for the co-creation of personalized experiences between the hotel (and its employees) and the tourist consumer in the hospitality and tourism industry. To depict the processes explained above, a process model of 'Personalized Experience Creation' was developed in Figure 3.

Figure 3. Process Model Personalized Experience Creation



The model displays the requirements and processes of smart technologies necessary for personalized experiences to be facilitated. In contrast to traditional static a-priori information collection from the consumer to the company (C2B) and the one-way experience delivery from the company to the consumer (B2C), smart technologies have opened more dynamic service encounters, in which experiences are co-created in an agile manner. Moreover, experience creation, facilitated by technology, occurs on a micro employee-consumer (E2C) level. In that employees in various departments are interconnected to real-time information, employees and consumers enter a dynamic service encounter in which a) personalized experiences are created and b) information can be collected and synchronized for future encounters.

To allow for this process to occur, the mode highlights that smart technologies need to fulfil three main requirements. First, the platform needs to allow for information to be dynamically collected and adjusted on a continuous level. Second, mobile technologies with ubiquitous connection are needed to facilitate service encounters along all touch points throughout the hotel setting, by anyone, anywhere and at any time. Third, the smart technology needs to allow for information to be updated, uploaded and synchronized on a real-time basis. By fulfilling these features, smart technology solutions can help employees to dynamically anticipate and address consumer needs along every step of the journey.

In this respect, it is however noteworthy to point out underlying issues emerging from the case study. While numerous benefits of technology for personalization are outlined, it is critical for businesses to handle personalization with the necessary care. This is in line with studies confirming concerns regarding the privacy of information collection and retention (Shen & Ball, 2009), the level of consumer integration as resource integrators in experience co-creation (Baron & Harris, 2008) and the potential risk of overuse and over-visibility of technology in the service encounter (Benckendorff et al. 2005). In taking these issues into account, businesses can reflect on the ideal level of consumer and technology integration in order to facilitate the ideal personalized experience *for* and *with* the tourist consumer.

Conclusions and Implications

The integration of smart technologies for the creation of personalized experiences is critical for businesses to remain competitive in today's dynamic market place. This is of particular interest to the tourism and hospitality industry, in which commoditization, competition and high customer expectations drive the need for differentiation (Peterson, 2011). With increasing opportunities brought by the developments in the mobile electronic market, customer service and experience personalization have become possible to unparalleled levels. The study has aimed to bridge the current gap between smart technology and personalized experiences and contributed to the theoretical understanding on three main levels. It has a) developed knowledge about the key requirements of smart technology, b) differentiated two main levels of personalized experiences, and c) presented an integrated model that paints the picture of the underlying processes that occur when personalized experiences are created through smart technology.

With respect to management and practice, this study has explored whether at all, and how smart technology can be used to create personalized experiences in the context of the tourism and hospitality industry. The findings of the case study have several critical implications that apply to the general use of ICTs for consumer experience creation. Smart technologies can function as a catalyst of change that can assist in the facilitation of dynamic service encounters, agile consumer profiling and experience co-creation practices that are equally shared between companies and consumers. The findings suggest that businesses need to the exploit emerging smart technologies and implement them in the entire strategy and operation structures of the service setting. Thereby, technologies will not substitute personal human encounters. Rather, they serve as instruments to strategically improve human resource-led processes by equipping individual employees with technology for an enhanced service and experience creation process. Smart technologies thus need to be regarded as key tools, which context-dependent, can be operated in the background and foreground to foster engagement and enhance the possibilities of personalized experience creation. This has particularly crucial implications for tourism, which is highly dependent on the successful creation of

personal experiences to reduce the interchangeability of the tourism product and increase competitive advantage by facilitating higher value extraction for the consumer.

Beyond the theoretical and practical implications, several limitations are acknowledged, which could potentially be addressed in further research. The case study could be expanded in that multiple cases in addition the single case study are examined. This would allow for a comprehensive cross-case analysis, validation and generalisation of the findings to a larger industry context. As the findings are based on one case study in the hospitality domain, this research does not try to claim generalisability beyond the immediate context of the study. Additional in-depth studies could focus on the emerged relational role of employee-consumer interactions to illuminate the interdependence between employee empowerment, technology and experience co-creation practices. Moreover, with the dynamic emergence of smart technologies in tourism, this stream of research is only in its infancy. Further exploration is needed to capture the adoption, implementation and impact of smart technological solutions in the coming years. Particularly as new smart technologies in the areas of location-based services, augmented reality, context based services and gamification emerge, research in this domain could be accelerated opening a broad agenda for future research in hospitality, tourism and beyond.

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Appendix 14.2: Journal Article 2

Neuhofer, B., Buhalis, D., Ladkin, A. 2014. A typology of technology-enhanced tourism experiences. *International Journal of Tourism Research,* 16 (4): 340-350.

A typology of technology-enhanced tourism experiences

Abstract

Experiences constitute the essence of the tourism industry. While literature has recognised the recent impact of technology on experiences, its empirical exploration remains scarce. This study addresses the gap by empirically exploring five leading industry cases to generate a holistic understanding of technology enhanced tourism experiences. The main contribution of this paper lies in the development of a nine-field experience typology matrix based on the increasing intensity of co-creation and technology implementation. The final contribution of this study is the development of an experience hierarchy and discussing its relevance for experience enhancement in tourism research and practice.

Keywords: Tourism experiences; co-creation; technology; best practice; case study; experience typology;

1 INTRODUCTION

In recent years consumers have been increasingly in search of experiences (Pine and Gilmore, 1999). Due to its dynamic nature, the tourism experience is undergoing constant change characterised by the growing importance of consumer involvement, co-creation and the implementation of technology. The strategic adoption of information and communication technologies (ICTs) in tourism per se is not new (Buhalis, 1998). Tourism, as a service-intense industry has gone for many decades hand in hand with technology and embraced the potential inherent in its latest developments (Buhalis and Law, 2008). However, what has changed significantly is that technology has not only become an integral part of tourism but has revolutionised the way travel is planned (Buhalis, 2003), business is conducted (Buhalis and Licata, 2002) and tourism services and experiences are created and consumed (Stamboulis and Skayannis, 2003). This has opened new opportunities, challenges and potential in the field (Gretzel et al., 2006a).

The integration of ICTs has particularly benefited the facilitation of experiences. With new technologies being developed, new types of tourist activities are emerging that can both transform conventional experiences and result in the emergence of new types of tourism experiences. These new experiences, manifested as immersive virtual (Guttentag, 2010), augmented-reality (Yovcheva et al., 2013) or technology-mediated experiences, are predicted to be richer, more participatory and facilitated through multiple media (Gretzel and Jamal, 2009). In these experiences, technology can function either as a mediator or become the core experience itself (McCarthy and Wright, 2004). Thus, Gretzel and Jamal (2009) question the traditional understanding of tourism experiences. It is necessary to capture the current changes (Huang and Hsu, 2010), whereby it is not the technological development itself but the integration of technology into the experiences which is of interest (Darmer and Sundbo, 2008). Existing literature however appears to have insufficiently addressed these changes, as scholars still report a major gap in understanding the role of technology in experiences (Beeton et al., 2006; Tussyadiah and Fesenmaier, 2007). Many studies to date have

discussed the impact of single types of technologies, such as the Internet, virtual worlds (Binkhorst and Den Dekker, 2009), blogs and micro-blogging (Wang and Fesenmaier, 2004) as well as social media and networking platforms (Fotis et al., 2011), while lacking to recognise multiple technologies in transforming the nature of tourism experiences.

To date only a few studies have attempted to discuss tourism experiences and the impact of technology from a more complete perspective. Neuhofer and Buhalis (2012) introduce the concept of technology enhanced tourism experiences and provide a conceptualisation for developing an integrated understanding of experiences by combining the elements of experiences, co-creation and technology. They argue that there is a major gap in researching, understanding and managing technology enhanced experiences in tourism research and practice alike. Given the insufficiencies in the literature and these recent claims, this study aims to provide a first empirical exploration of the technology enhanced tourism experience concept by means of a case study approach. This paper first provides a theoretical review of tourism experiences, co-creation and ICTs developments, followed by the outline of the methodological approach and the data collection process employed. In conducting a cross-case analysis, the paper presents findings in terms of level of co-creation and technology, allowing for a two-fold theoretical contribution. It develops an experience typology matrix offering a tool for categorisation in which the single cases are pinpointed and discussed. In developing the matrix further, an experience hierarchy is presented as a useful instrument for differentiation of four main levels of technology enhanced tourism experiences.

2 THEORETICAL FRAMEWORK

2.1 Tourism experience theory

Experiences constitute a renowned notion with multiple meanings inherent. According to Jennings et al. (2009) the term experience is not novel for understanding human interactions with people, space, products, services or cultures. The term experience was first noted in the 1960s and since then, there has been a wide discussion of its meanings and understanding in literature. The English word “experience” can be understood as a neutral, vague and highly ambiguous term, which generally describes all kind of things that a person has ever undergone (Aho, 2001). With its discussion in different scientific disciplines, distinct definitions of an experience have evolved over time (Caru and Cova, 2003). The sociological and psychological views coincide by portraying the experience as a subjective and cognitive activity of an individual human being (Larsen, 2007), in which knowledge and skills are acquired in the involvement in or exposure to a specific event and the emotions, feelings and sensations triggered during that experience (Ismail, 2010). The emphasis on experience in tourism and marketing is relatively recent (Jennings et al., 2009). From a marketing perspective, experiences have been defined as a personal occurrence with highly emotional significance obtained by the consumption of products and services (Holbrook and Hirschman, 1982). In the context of tourism, experiences represents a complex construct, which has been postulated as distinct from everyday life experiences (Cohen, 1979; MacCannell, 1973; Turner and Ash, 1975).

Experiences have constituted an important concept in tourism studies and the industry (Uriely, 2005) since the establishment of early literature in the 1970s (e.g. Cohen, 1979; Csikszentmihalyi, 1975; MacCannell, 1973). This is because tourism is determined by a high level of interactions of the tourism system, its people and the individual human being as the tourist (e.g. Larsen, 2007). These interactions lead to the formation of

individual tourist experiences (Mossberg, 2003), which are obtained at the moment of value creation when tourism production and consumption meet (Andersson, 2007). The current body of literature confirms the persistent relevance of this topic (Cutler and Carmichael, 2010; Kim et al., 2011; Morgan et al., 2010; Darmer and Sundbo, 2008; Tung and Ritchie, 2011). While a lot of work has been dedicated to the theoretical advancement of experiences, further exploration is still needed (Ritchie and Hudson, 2009). Considering the dynamic nature of the tourism industry, experiences are subject to constant evolvement and change. Two of the most significant advances in the area of experiences constitute the increasing level of co-creation and integration of ICTs.

2.2 Co-creation theory

Co-creation, defined as the "joint creation of value by the company and the customer" (Prahalad and Ramaswamy, 2004a, p.8) has become a key notion in experience creation. With consumers having becoming more powerful and actively involved, the traditional creation of experiences has undergone a transformation (Prahalad and Ramaswamy, 2004a). Until recently, tourism experiences were mainly designed, created and staged as suggested by the principles of the experience economy (Pine and Gilmore, 1999). The process of staging and delivering experiences has widely been revised due to its business-oriented, one-directed and superficial nature. As consumers are more empowered, particularly since the emergence of the Internet, consumers are recognised in a more active role in the creation of experiences. The notion of co-creation builds on these very principles.

Prahalad and Ramaswamy (2004a), one of the first to establish this concept, claim that experience creation is characterised by active consumers who play the primary part in co-creating their experiences. This movement has changed the traditional roles between companies and consumers. Co-creation advocates the individual human being, rather than the company, as the starting point of the experience (Binkhorst and Den Dekker, 2009). Thus, it has become an essential task for companies to recognise consumers and their needs to co-create experiences and value together. Recently, this movement has been widely discussed in literature indicating the high relevance of co-creation experiences in both theory and practice (Huang and Hsu, 2010; Prebensen and Foss, 2011; Ramaswamy, 2011; Vargo and Lusch, 2004). In addition to the amount of studies discussing co-creation experiences, authors have recognised the impact of ICTs as a major change of tourism experiences. With experiences being increasingly mediated by technology (Tussyadiah and Fesenmaier, 2007), the recent developments of ICTs in the tourism industry and tourism experiences are reviewed in subsequence.

2.3 Information and communication technologies: From Web 1.0 to Social Networks

There exists a great amount of ICTs available to potentially influence and enhance tourist experiences (Law et al., 2009). ICTs can generally be understood as a wide range of technologies including hardware, software, groupware, netware and humanware (Buhalis, 2003). These different systems are accumulated under the umbrella of ICTs, while distinctions between hardware equipment and software often blur (Werthner and Klein, 1999). The synergies of these systems build tools for communication and information and render ICTs an integrated system of networked systems (Buhalis and Jun, 2011). Accordingly, Buhalis (2003, p. 7) defines ICTs as "the entire range of electronic tools, which facilitate the operational and strategic management of organisations by enabling them to manage their information, functions and processes as well as to communicate interactively with their stakeholders for achieving their mission and objectives".

The Internet, as the most important innovation since the printing press (Hoffman, 2000), provides a technology which has not only changed how individuals interact with each other but has altered the role of human beings in society (Barwise et al., 2006). As such, it has impacted on the nature of the tourism industry like any other industry (Schmallegger and Carson, 2008) arguably as main determinant for the competitiveness of tourism organisations (Buhalis, 1998; Poon, 1993; Sheldon, 1997). The development of the tourism industry has gone hand in hand with the progress of ICTs for more than three decades and shown a high interest in the strategic exploitation of ICTs to manage information, enhance efficiencies and communicate more effectively (Law et al., 2009). ICTs have become key elements in all operative, structural, strategic and marketing levels to enable interactions among suppliers, intermediaries and consumers on a global basis (Buhalis and Law, 2008; Egger and Buhalis, 2008).

With the proliferation of the Internet, new forms of communication have appeared (Ramaswamy and Gouillart, 2008). The shift from the Web 1.0 to the Web 2.0 and its inherent social networking has been one of the most significant technological developments over the past few years (Dwivedi et al., 2012; Fotis et al., 2011; Hays et al., 2012; Sigala, 2009; Xiang and Gretzel, 2010). The variety of tools in the Web 2.0 comprising blogs, videos, wikis, chat rooms or podcasts have empowered individuals to generate content and share and experiences on an unprecedented scale (Tussyadiah and Fesenmaier, 2009). Encouraged by the interactive nature of the Web 2.0, users are enabled to take part in designing services with the company (Sigala, 2009), influence the online reputation as well as branding of organisations around the world (Inversini et al., 2010). ICTs have had enormous effects on the way in which the tourism experience is created (Stamboulis and Skayannis, 2003; Tussyadiah and Fesenmaier, 2007). While technology can function in multiple roles as a creator, enhancer or destroyer of the experience (Stipanuk, 1993), its integral part of many contemporary tourism experiences cannot be ignored. In leading to more personalised, meaningful and intense co-creation experiences (Prahalad and Ramaswamy, 2004a), the main interest of tourism subsequently lies in exploring the potential of ICTs, and particularly social networking, as strategic instruments to positively enhance tourism experiences.

2.4 Enhancement of experiences

In reviewing the advances in co-creation and technology, it appears that both developments are critical potential contributors to the enhancement of experiences. With increasing competition in the domain of tourism experiences, the main potential for improvement will lie in the exploration of maximising both parameters of co-creation and technology. Numerous studies have confirmed the opportunities in using ICTs to support experience co-creation in several different ways (Gretzel and Jamal, 2009; Tussyadiah and Fesenmaier, 2007; Tussyadiah and Fesenmaier, 2009). The latest technological advances, such as online booking tools or virtual tourist communities, mobile devices or virtual life enable companies and consumers to enhance experiences. For instance, by adopting mobile devices on the move, tourists can construct new experiences by attaching personal meaning to them (Gretzel and Jamal, 2009), while the use of social networks allows tourists to engage, communicate and co-create in the online world. Interactive tourism organisation websites and their social media presence moreover enable tourists to personalise services and experiences by giving them the possibility to change settings, adapt to personal preferences and determine information for their specific needs and requirements. As a result, ICTs empower tourists and facilitate the co-creation (Prahalad and Ramaswamy, 2004a) of richer (Tussyadiah and Fesenmaier, 2007) and more personalised tourism experiences (Niininen et al., 2007; Sandström et al., 2008). Hence, technologies are not only altering current experiences

but also lead to new types of tourist experiences (Darmer and Sundbo, 2008; Gretzel and Jamal, 2009).

Literature confirms the significance of ICTs in the tourism experience (Cho et al., 2002; Green, 2002; Gretzel et al., 2006b; Huang et al., 2010; Mossberg, 2003). Yet, the majority of the existing work has merely emphasised the impact or role of technologies (e.g. Binkhorst and Den Dekker, 2009), while theoretical and empirical investigations remain scarce. This is exemplified by studies naming technologies influencing the tourist experience, such as the Internet, virtual communities or Second Life (Binkhorst and Den Dekker, 2009), social networking platforms, blogs or microblogging like Twitter (Wang and Fesenmaier, 2004), Facebook, YouTube or Wikipedia (Ramaswamy, 2009) or virtual worlds and social networking sites (Shaw et al., 2011). Empirical work to date has predominantly focused on the examination of specific technologies in tourism experiences, such as media (Gretzel et al., 2011), mobile guides (Tussyadiah and Fesenmaier, 2007), videos (Tussyadiah and Fesenmaier, 2009) or smartphones (Wang et al., 2012). A holistic exploration of experiences through the combination of co-creation and technology is however missing. Only recently, the conceptual work by Neuhofer and Buhalis (2012) has raised the need to not only recognise single technologies influencing the tourist experience, but to develop a more holistic understanding. By unifying the three elements of the tourism experience, experience co-creation and multiple ICTs, technology enhanced tourism experiences can emerge as a new framework for tourism research (see Figure 1). This study therefore aims to investigate this concept empirically and adopt a holistic perspective that seeks to understand a) what types of technologies are used in the experience, b) how does the increasing intensity of technology and co-creation determine the experience, c) what constitutes a technology enhanced tourism experience and d) what levels of technology enhanced tourism experiences can be differentiated, by adopting a case study methodology.

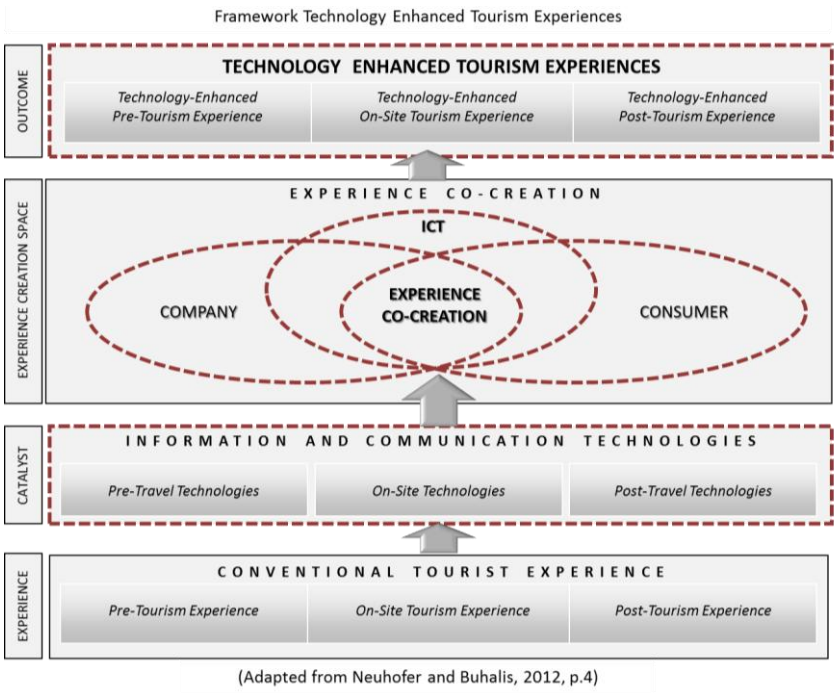

Figure 1. Framework technology-enhanced tourism experiences.

3 METHODOLOGY

In order to understand how to create successful experiences, tourism providers currently rely on best practice examples of the industry (Binkhorst and Den Dekker, 2009). Whilst the concept of best practice is generally vaguely defined, it has become a popular term in business to describe leading industry cases as role models to increase success (Hallencreutz and Turner, 2011). Accordingly, best practice is understood as business excellence in a particular benchmark, award winning, the most popular or widespread practice or an evidence for a success story (Todaro, 2002). Given the dearth of businesses creating technology enhanced experiences in practice, this study investigates outstanding tourism best practice companies in order to develop an empirically-grounded understanding of technology enhanced tourism experiences. For this purpose, a case study approach is adopted, which is particularly useful when exploring a contemporary phenomenon within its real-life context for which multiple sources of evidence are needed (Yin, 2003b). The rationale for using case studies moreover lies in its suitability as an ideal methodology in both tourism (Gray and Campbell, 2007) and the field of information systems when technology is dynamic, changing and newly implemented (Pare, 2001).

To address this enquiry, the study favoured multiple over single case studies to examine the full complexity of the phenomenon and enhancing the generalisability of the theory to propose (Yin, 2003b). Purposive sampling was employed, which proved to be particularly suitable, as the goal was to gain an in-depth understanding of what is taking place in the particular context of tourism experiences. The main focus thereby lay on the "process rather than outcomes, in context rather than a specific variable, in discovery rather than confirmation" (Merriam, 1998, p. 19). In terms of the number of cases, the study followed Yin (2003a) who argues that the sample size represents a matter of judgmental choice. While traditional sampling logic aims to yield representativeness across the population, in case study logic it is not a large sample size but the number of cases determined by theoretical saturation, which is critical (Yin, 2003a). For the case selection, companies meeting a set of pre-defined criteria were eligible to be included in the study, such as to a) represent the context of the tourism and hospitality industry, b) represent a best practice example in showing evidence of successful current realisation of technology enhanced tourism experiences. In line with Flyvbjerg (2011) who suggests a maximum variation of cases, organisations reflecting a distinct mix of characteristics were identified to allow for diverse perspectives and in turn increased generalisability of the results. Organisations were researched online and identified based on the prerequisites for a total period of two months in autumn 2011. In this process, 17 suitable companies were contacted via email and invited to participate in a workshop on the research topic. Due to geographical distance, unavailability on the specific time or date, the recruitment process resulted in a total number of five companies agreeing to participate in a half-day workshop in London, UK.

The selected cases encompass various industry sectors, including a destination, restaurant and hospitality businesses and an online tourism platform. Each company was represented by its top-management, including founders, CEOs, general managers and departmental managers who all showcased their respective approach to experience creation to an expert audience of 25 people. The workshop started with an introductory presentation to set the scene for the subject, followed by 30-minute company presentations and an interactive discussion with the present audience. Informal interviews with the representatives followed to elicit key information about the company's background, role in experience creation, rationale for ICTs use, specific ICTs use in different travel stages, potential customer value as well as future plans for

experience creation. As the major strength of case study research, multiple sources were integrated (Yin, 2003b) including documentary information, informal interviews and participant observation. Documentary information, comprising company reports, business plans, press releases, and conference presentations, fulfilled the purpose to understand the companies' efforts of experience enhancement. Informational interviews with the representatives allowed for an in-depth understanding of leading real life cases, while direct observations through visits to the case study sites and online-spaces allowed getting a technology-enhanced experience firsthand. Through the use of multiple sources of evidence, rich data was obtained and the construct validity could be enhanced significantly. In the analysis process, data were triangulated, allowing for a convergence of evidence and a cross-case analysis by means of a qualitative template analysis (Miles and Huberman, 1994) to categorise findings based on the conceptual framework presented above (Figure 1). Table 1 below outlines the best practice companies, their respective industry sector and the rationale for the choice.

Table 1. Case study outline

Case Nr.	Company	Industry Sector	Rationale Choice
1	PixMeAway	Web 2.0	Picture-based search and recommendation engine for travel inspiration
2	Inamo Restaurant	Hospitality	Interactive ordering system for a digital dining experience
3	VisitBritain	Destination	Engagement and experience co-creation through social networking and mobile applications
4	Hotel Lugano Dante	Hospitality	Mobile Happy Guest Relationship Management tool for experience personalisation
5	Sol Meliá Hotels	Hospitality	Engagement and one-to-one co-creation through social networking

4 FINDINGS AND DISCUSSION

Having undertaken five case studies, this section presents the findings of the study, offering two main contributions, an experience typology matrix and an experience hierarchy. More specifically, the case studies uncover the role of technology in the experience in terms of a) which types of technologies come into use, b) the intensity of technology in the experience and c) the intensity of technology for co-creation. Based on the five cases analysed, types of technology enhanced tourism experiences are differentiated and a nine-field experience typology matrix is developed to graphically pinpoint the respective experience types. This work takes the discussion further and proposes an experience hierarchy with four overall levels of experiences to provide a succinct understanding of technology enhanced tourism experiences.

4.1 Technology in the experience

The analysis of the technology utilised, as the instrument transforming a conventional tourist experience into a technology-enhanced experience, is critical. Despite a plethora of technologies mentioned in literature, such as the Web 2.0, blogs, videos and social networking sites (Tussyadiah and Fesenmaier, 2009), it was essential to explore what types of ICTs and how these are used by leading companies to enhance experiences in

practice. Technologies range from interactive websites, interactive ordering systems (eTable technology) to interactive mobile platforms (iPads), diverse social media channels (Facebook, Twitter) and mobile applications (Destination Apps). The findings from the case studies hence reveal that different technologies come into use, indicating a multiplicity of possible technologies and varying technological intensity for experience enhancement.

Technology – Intensity in the experience

The findings from the cross-case analysis indicate the need to distinguish between two main types of technologies for experience enhancement. In the first scenario, technology has the supplementary role to support the tourism experience, while in the second scenario, technology constitutes the integral part of the experience in becoming the experience itself.

In the case of *PixMeAway*, the company takes the role of an interactive online platform. PixMeAway is a picture based search engine which provides a new kind of travel inspiration, as consumers select appealing pictures, define their personal travel type and receive destination suggestions matching their criteria. In providing for a high interactivity, pictures and trip suggestions, the platform provides an innovative way to enhance the early stages of travel inspiration and planning and becomes the experience itself. Similarly, the *Inamo Restaurant* provides an example in which the technology is a core part of the experience. The Inamo Restaurant has pioneered in introducing a fully digitalised dining experience and interactive ordering system. This system, developed by E-Table™, uses a combination of table touchpads and overhead projection to allow customers to see the food and drinks menu projected onto the table surface. The system further allows customers to change table clothes to the current mood and preferences, watch their food being prepared in the kitchen through a webcam in real time, manage the waiter and bills, explore the local neighbourhood for activities afterwards, or order a cab home. By doing so, the restaurant provides the physical technology (interactive tables) without which the unique dining experience could not occur, rendering the technology the central element of the experience creation.

Contrastingly, the three other best practice cases show a predominant focus on the core tourism experience. Technology takes on a complementary role, which can be used but does not constitute an integral part of the experience. *VisitBritain*, *Sol Meliá* and *Hotel Lugano Dante* represent examples in which the destination, the hotel product, service and experience offered remains the core function. If the tourist chooses to, technology can become part of the experience through active involvement, social media engagement pre/during/post travel, provision of personalised information or use of mobile applications on-site. The extent to which technology is used to engage and co-create with the company is defined by the tourist at discretion. The more engagement tourists have with the technologies and platforms the richer their physical experience can be. As a result, the difference to the above mentioned examples with technology being the center of the experience, in these cases the experience varies from a lightly-technology-assisted to a strongly-technology-empowered experience in the pre-, during- and post-travel stages. This means that it is not sufficient to recognise technology as a generic facilitator of the experience. Rather, there is a clear need to differentiate technology in terms of core or supplementary element of the experience. In addition to examining the intensity of different types of technologies, it is equally important to shed light on the intensity of technology-facilitated co-creation in the experience.

Technology – Intensity of co-creation

The case studies reveal that all technologies identified share the characteristic of a high level of interactivity. Interactive ICTs adopted allow tourists to interact, engage and act with the different stakeholders, such as the company, members of staff, other consumers, destination resources or the overall experience space. Interactivity and social engagement on different levels appears to be a key requirement of technologies used for the enhancement of experiences. For instance, the interactive website of *PixMeAway* allows consumers to interact with the interface, select appealing travel motifs, the traveler type and define their travel personality, based on which relevant destinations are suggested.

The case of the hospitality context shows that mobile platforms can come into play to facilitate and enhance the level of interaction between the company and the guest throughout the entire hotel experience. *Hotel Lugano Dante* has developed a unique concept called HGRM, Happy Guest Relationship Management. This system, which is accessible to all staff through a mobile platform, enables the company to amalgamate all interactions of staff and guests on one level throughout the whole guest's journey, before, during and after the stay. Guests provide personal information and preferences, such as room temperature, favourite beverages, preferred newspapers etc. while members of staff retrieve this specific information. By accessing the platform on a mobile device, the hotel and guests co-create through exchanging information in real time, which are used to facilitate encounters on multiple touch points. This leads to more personalised interactions, more valuable service encounters and on overall enhanced experience for the guest. In a similar vein, the case of *Inamo Restaurant* confirms that technology constitutes an important instrument to allow for customer-centric co-creation of the experience. The eTable technology enables guests to adapt the colour scheme of the electronic table cloths, control the dining experience, manage the ordering process, waiters, bills and discover the local area. These examples demonstrate that technology constitutes an essential part of a co-created experience between the restaurant, hotel and its guests.

Besides using technology for enhancing co-creation between companies and customers, the findings from the case studies indicate that technology is also used to facilitate customer-to-customer co-creation. In the case of Sol Meliá and VisitBritain, technology in form of social media comes into play. For instance, *VisitBritain* engages a large number of tourists, fans and followers from all around the world throughout all stages, pre-, during- and post-travel. By doing so, they build relationships between overseas tourists and UK visitor attractions as well as allow tourists to engage among themselves to commonly co-create a digital global guest book on social media. Moreover, the mobile application Top 50 UK Places is a best practice example of customer-to-customer co-creation. Tourists are encouraged to generate content in terms of photography and videos and share them with others through the LoveUK Flickr and Facebook platforms. This enables the organisation to show the destination through the eye of the real customer. According to VisitBritain, customer involvement has become paramount and the mobile application 50 UK Places reflects this trend by ranking popular attractions purely on tourists' check-ins in Facebook places. In that VisitBritain steps back in its role as the dominant experience provider, it places the control in the hands of the consumers, who are encouraged to co-create the experience among each other.

Furthermore, the case of *Sol Meliá* reveals how to use the increasing power of the Web 2.0 and social media to create active conversations with and among customers. By exploiting the full potential of the collective space of the Web 2.0 and social media

(Sigala, 2009), Sol Meliá can be considered as an industry leader in guest engagement by developing a system called ME Ecoystem. Unlike most examples advocating the need for company-to-customer or customer-to-customer co-creation, this system extends co-creation to a one-to-one basis on all levels. The ME Ecosystem allows for a person-to-person engagement through encouraging a circle of wide-ranging interactions between single members of staff of Sol Meliá, including managers, employees, guests, twitter-followers who are all interconnected and conjointly co-creating the tourism experience. Through the use of diverse social media and mobile applications, such as Facebook, Twitter and location based services, they advocate that interaction must not only take place between the company as an entity but rather on a personal level where all people related to Sol Meliá are connected and encouraged to co-create among themselves. In the destination and hospitality context, this unifies people who advocate, have already visited, are planning to or are currently visiting the respective destination, hotel or attraction.

The cross-analysis of the different cases leads to the suggestion that technology is revolutionising experience creation by offering high level of interactivity, personalisation and social engagement. This is in line with literature, such as Gretzel et al. (2006b) who argue that consumers today expect marketers to provide personalised and customised experiences by meeting the latest technological standards. In this context, social media, such as Facebook, YouTube, Twitter or Flickr play an important role in empowering for enhanced levels of interactions among multiple parties. Fotis et al. (2011) confirm the importance of social media throughout the entire journey as a platform for tourism providers and tourist consumers to engage, interact and share experiences (Dwivedi et al., 2012).

4.2 Experience typology matrix

The findings from the five cases indicate varying intensities of technology and co-creation in experiences, leading to varying types of technology-enhanced tourism experiences. The cases have revealed that technology unquestionably represents a central element in the enhancement of experiences. However, what differs is the intensity of technology and co-creation which determines the nature of a particular experience. Based on the peculiarities of the experiences analysed, this work highlights that there is not one single technology-enhanced tourism experience but the need to take a more differentiated view. In drawing from literature and analysing the cases, this study establishes an experience typology matrix, classifying nine major types of experiences, shown in Figure 2. The matrix contains two axes, namely intensification of co-creation (vertical axis) and intensification of technology (horizontal axis). The vertical axis recognises three levels of co-creation including company-centric staging, company-consumer co-creation and multiplier co-creation. The horizontal axis comprises three levels, including low technology use, technology use to enhance the experience and technology as the core of the experience. Consequently, the varying intensities lead to the combination of nine-field experience typology matrix.

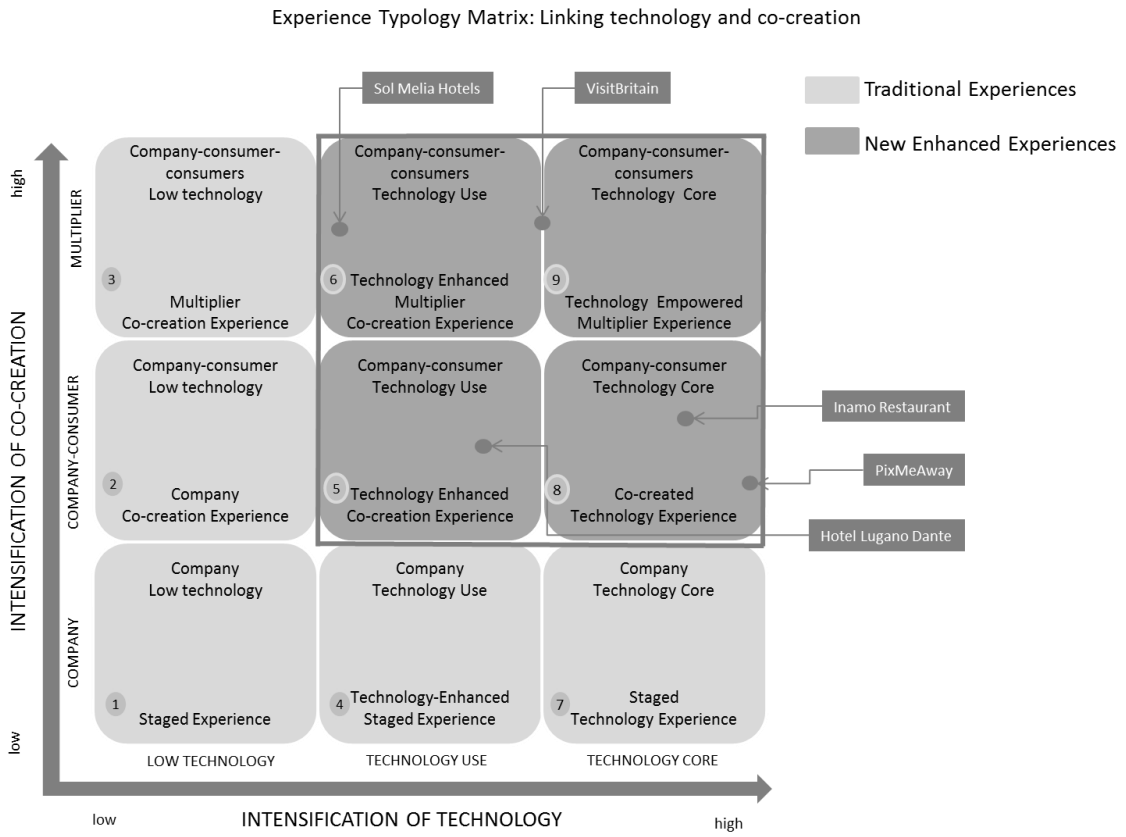

Figure 2. Experience typology matrix: linking technology and co-creation.

In analyzing the characteristics of the five case studies, it was found that all cases can be located in the four upper right fields (*5*,*6*,*8*,*9*) reflecting a high intensity of technology and co-creation respectively. This work, in attempting to offer a holistic perspective, embraces the lower ends of the axes and discusses nine fields to provide for a complete understanding of traditional (*light grey fields*) and new enhanced (*dark grey fields*) tourism experiences.

1-4, 7: Traditional Tourism Experience: These experiences, found on the lower end of the continuum, are characterised by limited levels of technology and co-creation. Examining the horizontal axis, these include staged experiences, as prevalent in the experience economy (Pine and Gilmore, 1998), which are determined by a company-centric experience delivery with technology facilitation to different extents (*see fields 1, 4, 7*). The vertical axis represents co-creation experiences, as proposed by Prahalad and Ramaswamy (2004b), reflecting an increasing level of co-creation between companies and consumers as well as among consumer communities, while technology plays a minor role in facilitating these processes.

5: Technology Enhanced Co-creation Experience. Hotel Lugano Dante can be associated with this type of experience as the HGRM platform is used as an important instrument to enhance the core hotel experience. Enhanced co-creation thereby predominantly occurs on a company-consumer level. By allowing for a high level of guest-involvement it is distinct from a technology-enhanced staged experience (*4*) in which a company uses technology to assist the delivery of staged experiences.

6: Technology Enhanced Multiplier Co-creation Experience. Sol Meliá represents this type of experience due to its use of social networking technologies to facilitate co-creation with multiple stakeholders, including the tourist consumer, the hotel, single

members of staff, other guests as well as followers and fans. By doing so, a multiplier effect of co-creation through technology is achieved, making it distinct from technology-enhanced co-creation experience (*5*).

8: Co-created Technology Experience. Inamo Restaurant and PixMeAway facilitate this type of experience creation. Technology constitutes the core element of the experience while co-creation is provided through personalisation and interaction with the company. This makes it distinct from a staged technology experience (*7*), in which technology is merely functional and lacks in the characteristic co-creation elements, such as traditional booking platforms or reservation systems.

9: Technology Empowered Multiplier Experience. This experience type requires technology as the core part of the experience while allowing for a multiplier level of co-creation. VisitBritain represents a highly intense experience on both levels of technology and co-creation. While technology itself is not the core part of the experience, the pervasive implementation of different social engagement channels and mobile applications throughout all three stages of travel, renders VisitBritain close to a fully technology-empowered multiplier experience.

4.3 Experience hierarchy

The experience typology matrix provides a useful tool for tourism practice to analyse and identify both the type of experience they currently provide and plan to provide in the future. Most importantly, it allows them to understand which specific parameters need to be improved in order to enhance the experience further and in turn create higher value for the tourist. It is necessary to get a complete view and capture experience types on both the lower and high end of the experience continuum. While the analysed best practice cases represent the highest level of experiences, the majority of tourism organisations, whether hotels, destinations or airlines, yet have to achieve the full potential of co-creation (Binkhorst and Den Dekker, 2009) and ICTs application (Buhalis and Wagner, 2013). In seeking to develop the matrix further and make it more valuable for tourism theory and practice, this work develops an experience hierarchy. This hierarchy, like with any technology adoption hierarchy, provides a major theoretical contribution in that it depicts four overarching levels of experiences in terms of technology and respective increase of co-creation. These levels include the following:

- Conventional Experience (1)
- Technology-Assisted Experience (2)
- Technology-Enhanced Experience (3)
- Technology-Empowered Experience (4)

1 Conventional Experience

The first experience level represents the conventional tourism experience, which is widely known in tourism research and practice, as experience mainly associated with the experience economy (Pine and Gilmore, 1998). This type of experience is characterised by a mostly one-directional creation and delivery of the experience by the company. Accordingly, the consumer's level of involvement in the creation of the experience remains low and only occurs at the consumption limited of the experience. The adoption and integration of technology at this level is non-existent or restricted. As such, experiences lacking technology-facilitation provide tourists with the basic value proposition while much potential for connecting, engaging and co-creating the

experience, is still to be exploited. Given the limited realisation of technology and co-creation of experiences in the tourism industry (Binkhorst and Den Dekker, 2009), this experience level still represents one of the most common types of tourism experiences in practice.

2 Technology-Assisted Experience

Technology-assisted experiences need to be understood as experiences with increasing implementation of technology. At this level, technologies mainly provide a facilitating role of the tourism experience in assisting the consumer to access websites, booking systems, use mail and technologies for communication. This experience is characterised by Web 1.0 technologies, such as non-interactive websites, distribution systems, reservations systems among many technological applications (Buhalis and Jun, 2011), which are useful in assisting the tourism experience while however not allowing for tourists to interact or to co-create their experiences. With customer engagement and co-creation remaining relatively low, this experience has mostly been prevalent prior to the advent of the Web 2.0 and social media.

3 Technology-Enhanced Experience

Technology-enhanced experiences succeed the technology-assisted experience in taking advantage of technologies available in the Web 2.0 to make consumers actively participate and shape the creation of their experiences. Consumers use social media, such as Facebook, Twitter, Flickr or TripAdvisor to interact with organisations, use review sites, comment and use media to share their experiences (Tussyadiah and Fesenmaier, 2009). Characterised by the interactivity of Web 2.0 technologies, the level of customer involvement of the experience is high, rendering the experience creation a dynamic process between the company, the tourist consumer and other consumers. Considering the potential of social networking tools to enhance co-creation, the levels of co-creation can be intensified in multiple spaces and between multiple parties resulting in higher value for the tourist.

4 Technology-Empowered Experience

In considering both the literature and the findings highlighted in this work, it is evident that successful experiences incorporate high levels of technology and co-creation of an experience. In contrast to technology-assisted and enhanced experiences, in which technology plays a supporting role, the fourth level of experience is characterised by a combination of both elements of technology empowering and being integral part of the experience. At this level, technology needs to exist for the experience to happen. The main difference to other experiences is that technology is pervasive throughout all stages of travel, service encounters and touch points in the physical tourism destination or online space with multiple stakeholders. In taking full advantage of the plethora of different ICTs available, technology becomes the key element and epitome of an innovative contemporary tourism experience.

Given that staged experiences generate high value for consumers (Pine and Gilmore, 1999) and co-creation yields higher value for consumers (Binkhorst and Den Dekker, 2009), the consumer value through technology-empowerment can be maximised. This argument is substantiated in literature that the implementation of ICTs enhances experiences (Arnold and Geser, 2008), as it allows for active participation (Prahalad and Ramaswamy, 2004a), customisation and personalisation of the experience (Niininen et al., 2007), provides more satisfaction due to access and availability of services (Law et al., 2009) and creates more meaningful interrelations between the consumer and the experience environment (Binkhorst and Den Dekker, 2009). This work thus highlights the technology-empowered experience as the most distinct and valuable experience,

which can be achieved by integrating immersive technological solutions to allow the tourist to become highly involved, actively participate and co-create with multiple stakeholders throughout all stages of travel.

Figure 3
Experience Hierarchy

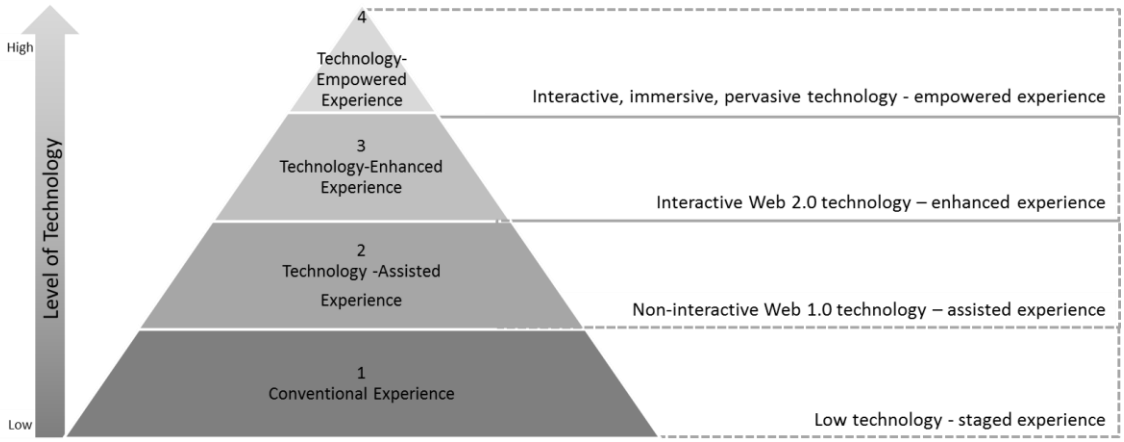

Figure 3. Experience hierarchy

This classification suggests that the integration of ICTs leads to enhanced experiences and an increase of value. Considering the difficulty to create the highest levels of experiences and their limited evidence in practice to date, it can be argued that the numbers of companies realising high-level experiences are still low. However, with technological developments and the penetration of ICTs to everyday life, especially for young generations, it is evident that tourism organisations will be progressing through the different levels in the hierarchy and gradually integrate technology to all aspects of their business for the enhancement of experiences. As the constant increase of value for the tourist is the utmost priority in experience creation, it is crucial for tourism organisations to evaluate their current experience and value created in seeking to progress to the next level. In this process, ICTs will play the key role. Emerging technological developments, such as near field communications, SoLoMo, augmented reality and gaming will provide a range of innovative technologies that will drive more adoption of technology for the creation of fully technology-empowered experiences. The contribution of this hierarchy is that it provides a valuable instrument for company experiences and competitiveness, as to understand the current and future experience levels and value propositions alike.

5 CONCLUSION AND IMPLICATIONS

Technology is significantly changing the tourist experience. The notion of technology enhancing the tourism experience is not new, however a holistic understanding on both a conceptual and empirical level represents a major gap. In conceptually building on the framework of Technology Enhanced Tourism Experiences by Neuhofer and Buhalis (2012), this is the first study to take an integrated approach of converging technology and co-creation in experiences and exploring this concept empirically. The findings from the case studies reveal that technology and co-creation are both key parameters to allow for the development of enhanced experiences. Depending on the relative intensity of these elements, the work has concluded to recognise not only one single technology enhanced experience, but to differentiate between several types of technology enhanced experiences. In that, this work makes two main contributions. This study has developed

an experience typology matrix, which by recognising the differentiation between nine types of experiences, provides for an understanding of co-creation and technology and how the intensification of these two lead to technology enhanced experiences. By advancing the matrix conceptually, the second main contribution is an experience typology hierarchy, which distinguishes four main levels of experiences to provide a useful instrument for companies to understand their current experience position and prospective experience levels to be achieved.

This study is novel in having undertaken a first empirical exploration of technology enhanced tourism experiences leading to critical implications for both tourism theory and practice. Theoretically, it provides four main contributions to our current understanding of experiences. It has a) provided a first empirical investigation into technology enhanced tourist experiences, b) analysed leading cases to understand different types of experiences, c) developed an experience typology matrix and an experience typology hierarchy, and d) empirically as well as conceptually developed the highly needed understanding of technology enhanced experiences in the context of tourism. From a managerial perspective, a number of implications emerge from this study for the creation and enhancement of tourism experiences through invaluable insights into leading best practice examples of the tourism industry. This provides a critical practical understanding of how experience leaders are realising technology enhanced experiences. For tourism companies this knowledge is critical as to a) understand leading examples and understand why these create enhanced and high-value experiences, b) assess the own experience proposition by means of the matrix, understand unexploited potential and maximise the experience enhancement through the intensification of technology and co-creation. This allows companies which are not yet fully embracing technology enhanced tourism experiences to evaluate their own position and advance their competitive advantage.

In presenting a first empirical exploration of the technology enhanced tourism experiences concept, this work hopes to stimulate further research in the area. In advocating a holistic approach, it is suggested that further research would be needed to complement this study with a consumer perspective. This could provide further implications for companies to this knowledge to facilitate technology enhanced experiences. Further research is needed to a) expand on the theoretical contributions of this research and apply both the experience matrix and hierarchy b) strengthen and validate the findings with further studies and c) extend the scientific discourse emerging in this area both conceptually and empirically.

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Appendix 14.3: Journal Article 3

Neuhofer, B., Buhalis, D., Ladkin, A., 2012. Conceptualising technology enhanced destination experiences. *Journal of Destination Marketing & Management*, 1 (1–2): 36-46.

Conceptualising Technology Enhanced Destination Experiences

ABSTRACT

The notion of creating rich and memorable experiences for consumers constitutes a prevalent concept in the tourism industry. With the proliferation of destination choices and increasing competition, it has become critical for destinations to find innovative ways to differentiate their products and create experiences that provide distinct value for the tourist. However, currently two major paradigm shifts are drastically changing the nature of experiences, the understanding of which is crucial for destinations to create successful experiences in the future. Experiences are transforming as a) consumers now play an active part in co-creating their own experiences and b) technology is increasingly mediating experiences. Despite the amount of literature recognising the impact of technology on experiences, there is evidence for a major lack of a holistic conceptualisation of this change. This paper thus raises the need to conflate the two-fold paradigm shift and calls for new reflections on creation of experiences. The aim is to explore technology as a source of innovation to co-create enhanced destination experiences. The paper contributes on three levels; by introducing and conceptualising a new experience creation paradigm entitled *Technology Enhanced Destination Experiences*, by proposing an extended destination experience co-creation space in the pre/during/post phases of travel and by discussing managerial implications of this development for the future creation and management of experiences in a destination context.

Key Words: Destination; marketing; experience; co-creation; information and communication technologies;

1. INTRODUCTION

Destinations are considered as the core of the travel and tourism industry (Fyall & Leask, 2007). A destination constitutes an amalgam of tourism products and services, which conjointly provide an integrated experience to tourist consumers and form an entity under the umbrella of a destination (Buhalis, 2000). They are also portrayed as a unit of action (Saraniemi & Kylänen, 2011) in which different individuals, stakeholders, and parties involved collaboratively deliver the destination product (Fyall, Garrod & Tosun, 2006). Due to their complexity and multi-elemental structure, destination marketing and management constitute a challenging endeavour (Buhalis, 2000), as destinations are one of the most difficult products to manage and market (Fyall & Leask, 2007). As the tourism industry is becoming increasingly competitive, destinations seek ways to advance their market position and sustainability (Ritchie & Crouch, 2003), as even more challenges for destination marketing and management will appear in the coming decade. Destination marketing organisations (DMOs) play a key role in the marketing of a tourism destination (Blain, Levy & Ritchie, 2005). With a

magnitude of tourism locations and attractions on offer, all organised to target tourist consumers, DMOs are faced with intensified competition (Stamboulis & Skayannis, 2003). Therefore, Hudson and Ritchie (2009) suggest that differentiation is key, as the tangible and intangible attributes of a destination, such as scenery, attractions, heritage and local people are no longer sufficient to distinguish from destinations competing with similar assets. Hence, with the proliferation of destination choices (Buhalis, 2000), DMOs need to find means to differentiate themselves, attract consumers and offer distinct value.

In this regard, Morgan, Elbe and de Esteban Curiel (2009) emphasise the importance of the experience economy concept within the marketing and management of destinations. Experiences have been utilised as a popular construct in destination positioning (Oh, Fiore & Jeoung, 2007). In a market where global competition has turned products and services into commodities, competitive advantage could only be gained by reducing the substitutability of offers (Hudson & Ritchie, 2009) and providing consumers with unique and memorable experiences (Morgan, Lugosi & Ritchie, 2010). However, with the growth of the experience economy, Pine and Gilmore (1999) emphasise that only those providing compelling and rich experiences will be able to remain in the market. Destinations have to find innovative ways to create desirable experiences for the tourist (Morgan et al., 2009). One critical way for destinations of doing so is to understand the latest developments and changes in the area of experience creation.

Two major paradigm shifts have been challenging the current understanding of the tourism experience. First, the traditional experience economy has been increasingly replaced by the notion of experience co-creation, which recognises active consumers co-creating their experiences in a quest for personal growth and value (Prahalad & Ramaswamy, 2004a). Second, more recently, there has been evidence that tourism experiences are not only co-created but increasingly technology-mediated (Tussyadiah & Fesenmaier, 2009), which enables tourists to create richer experiences (Gretzel & Jamal, 2009) and empowers them to co-create their own experiences (Prahalad & Ramaswamy, 2004a). With the dynamics of empowered consumers and proliferating technologies, traditional roles, structures and processes of destinations creating experiences have changed. Nevertheless, existing literature seems to have insufficiently addressed these changes and scholars testify a major gap in the understanding of the role of technology inherent in the tourism experience (Beeton, Bowen & Santos, 2006; Tussyadiah & Fesenmaier, 2007). This paper thus raises the need to combine this two-fold paradigm shift and calls for new reflections on the creation and management of experiences in a destination context, which are determined by:

1. A shift from passively consuming to actively engaged tourists co-creating their own experiences

2. A shift towards using technology to co-create enhanced experiences with tourist consumers

To that end, this paper aims to contribute by exploring the transformational impact of technology on experience co-creation and developing a holistic conceptualisation of a new destination experience concept entitled *Technology Enhanced Destination Experiences*. The paper first discusses the evolution in the experience economy, from the staging of experiences for the consumer to co-creating experiences with the consumer. Second, a review of the dynamic advances of technology in the tourism experience will provide new insights into understanding the role information and

communication technologies play in the co-creation of experiences. The paper concludes by presenting the integrated concept of Technology Enhanced Destination Experiences and discussing managerial implications of this development for the future creation and management of experiences in a destination context.

2. THEORETICAL BACKGROUND

2.1. Tourism Experience Economy

Experiences have always constituted an important notion in both research and practice (Uriely, 2005). This has been reflected in the great body of literature (MacCannell, 1973; Csikszentmihalyi, 1975; Cohen, 1979; Mannell & Iso-Ahola, 1987; Ryan, 1997), which established the theoretical context of the experience concept. The term experience, originally noted in the 1960s, covers a multiplicity of definitions (Moscardo, 2009). Traditionally, experience has been defined as a personal occurrence with highly emotional significance obtained from the consumption of products and services (Holbrook & Hirschman, 1982). In the specific context of tourism, early conceptual delimitations of tourism experiences postulated the need for differentiation due to their distinctiveness from mundane, everyday life experiences (MacCannell, 1973; Turner & Ash, 1975; Cohen, 1979). Drawing from an abundance of definitional attempts, the tourism experience can be defined, for instance, as a sensation resulting from interaction (Gupta & Vajic, 2000), as an outcome of participation within a social context (Lewis & Chambers, 2000), or the moment of value creation when tourism production and consumption meet (Andersson, 2007). Thereby, the individual' emotional, physical, intellectual and spiritual engagement in the experience (Mossberg, 2007) is significant enough to be translated into long-term memory (Larsen, 2007).

Despite the fact that there exists a plethora of definitions in numerous scientific fields (Walls, Okumus, Wang & Kwun, 2011), a general consensus in literature is lacking and the exact definition of an experience remains elusive (Jennings et al., 2009). Nonetheless, common agreement exists that the experience concept is key to understanding consumer behaviour (Addis & Holbrook, 2001) and represents a fundamental concept in marketing (Holbrook & Hirschman, 1982) and the experience economy (Pine & Gilmore, 1999). At the beginning of the 21st century, tourism experiences have received renewed attention which is manifested in state-of-the-art literature (Cutler & Carmichael, 2010; Gouthro, 2010; Morgan et al., 2010; Sharpley & Stone, 2010; Kim, Ritchie & McCormick, 2011; Tung & Ritchie, 2011), attesting the perpetual interest in and unabated relevance of the tourism experience concept (Quan & Wang, 2004; Morgan et al., 2010).

Society has undergone a profound shift over the past decades, as people have abandoned the idea of buying products and services but rather seek to buy experiences gained from the consumption of products and services (Morgan et al., 2010). At the turn of the 21st century, this shift has led to the contemporaneous emergence of various notions, labelled as the dream society (Jensen, 1999), the entertainment economy (Wolf, 1999), the experience economy (Pine & Gilmore, 1999), and creative tourism (Richards & Raymond, 2000). Pine and Gilmore (1999) with their seminal contribution shaped the prevailing term "experience economy", determining the underlying idea of experiences obtained by the consumption of products and services. The managerial interest in the experience economy was particularly triggered by the importance of delivering experiences, as conventional products and services have become replicated, interchangeable, and commoditised (Morgan et al., 2010). In the present market,

characterised by increasing globalisation, deregulation and convergence of industries and technologies, companies have been attempting to differentiate their offers (Binkhorst & Den Dekker, 2009). The idea of providing consumers with unique and memorable experiences (Pine & Gilmore, 1999) and thereby creating added value for them (Grönroos, 2000), was proposed as the key to competitive advantage and success.

Pine and Gilmore (1999) conceptualised the progression of economic value, depicting the transformation from the production of commodities and goods, provision of services to the staging of experiences. Experiences represent the ultimate objective in the ladder; while commodities are fungible, goods tangible and services intangible, experiences are memorable. The progression of value is to stage experiences, whereby 'staging experiences is not about entertaining customers; it's about engaging them' (Pine & Gilmore, 1999, p.30). Therefore, marketers need to create staged events that engage individuals in a personal and memorable way (Arnould, Price & Zinkhan, 2002). As a result, Pine and Gilmore (1999) emphasise that companies do not compete in terms of market price but rather in terms of the distinctive value of an experience provided. With consumers striving for high value and their willingness to pay a high price for obtaining great value, the strategic production of experiences has become a worthwhile concept for businesses (Darmer & Sundbo, 2008).

2.2.Shift towards Experience Co-Creation

Binkhorst and Den Dekker (2009) point out that despite its popularity, the experience economy theory has received a considerable amount of criticism since its proposition in the late 1990s. The creation of experiences has traditionally been treated as a one-directed approach, meaning that experiences are created by the company for the consumer. The company has thereby been regarded as the focal point of the experience production with the economic interest of how to increase the turnover by selling experiences as de-materialised commodities (Stamboulis & Skayannis, 2003; Darmer & Sundbo, 2008). This merely business-oriented idea of staging experiences is however strongly inspired by the industrialisation and determined by economic values and capitalist thinking (Boswijk, Thijssen & Peelen, 2007). With a radical shift in the company-consumer relationship taking place, these traditional views have been increasingly challenged (Prahalad & Ramaswamy, 2004a). The staging of experiences is now considered to be too commercial and superficial, and thus not appropriate to reflect the needs and wants of contemporary consumers (Boswijk et al., 2007).

In recent years, society has undergone a transformation towards the centricity of individuals and their human experiences (Prahalad & Ramaswamy, 2004a). Consumers have become increasingly informed, active and powerful which has induced a major change in the industrial system (Ramaswamy, 2009a). This has led to the emergence of a "prosumer society", reflecting the notion of consumers being actively involved in both the process of consumption and production (Ritzer & Jurgenson, 2010). While the concept of prosumption has existed for many years, it has particularly flourished through the social changes brought by the Internet and Web 2.0 (Ritzer & Jurgenson, 2010). With the empowerment of the Internet, consumers are no longer static market targets but now dictate the way they want to receive and respond to information (King, 2002). Hence, prosumers are encouraged more than ever before to play an active part in shaping the nature of their consumption through engaging in the production. Co-creation builds on this very principle and puts the focus back on consumers, their respective needs and wants and the question of how companies can meet these (Ramaswamy & Gouillart, 2008). This novel mindset has especially been brought

forward by Prahalad and Ramaswamy (2004a), who ascribe a much bigger role to individuals as prosumers and co-creators of the experience. Instead of consuming staged experiences, consumers now strive for more authenticity and expect a balance between the experience stager and the freedom to co-create their own experiences (Binkhorst, 2006; Ramaswamy & Gouillart, 2008).

This has transformed the company-consumer relationship and has changed the understanding of how experiences are now created and consumed (Boswijk et al., 2007). In the experience co-creation mindset, the individual human being, rather than the company, is regarded as the starting point of the experience (Binkhorst & Den Dekker, 2009). In the traditional relation, the roles of companies and consumers in the production and consumption were distinct (Ramaswamy, 2011). As consumers have transformed into prosumers and co-creators of their experience, this simplistic consumption exchange process is challenged. The new market constitutes a collective, collaborative and dynamic forum of interaction between individuals, companies and consumer communities. In this space, the roles of consumers and companies converge as they engage in a mutual interaction in which the individual becomes the central element (Ramaswamy, 2011). Companies therefore need create a forum to enter into a dialogue with their consumers to co-create experiences and value (Binkhorst & Den Dekker, 2009). At the same time, it is crucial for companies to allow for an environment that facilitates not only its interactions with consumers, but also allows for interactions among consumers. A growing body of literature highlights that customer-to-customer interactions become an integral part of co-creating experiences and generating value (Gruen, Osmonbekov & Czaplewski, 2007; Baron & Harris, 2010; Huang & Hsu, 2010).

These advances in the way how experiences are created and by whom underline the paradigm shift that has transformed the traditional understanding of experiences. With increasing dissatisfaction of researchers with existing, predominantly goods-centric and transaction-based models, co-creation provides an invaluable paradigm in the field of marketing which is reflected in the amount of literature discussing this novel idea (Prahalad & Ramaswamy, 2004a; Vargo & Lusch, 2004; Edvardsson, Enquist & Johnston, 2005; Payne, Storbacka & Frow, 2008; Ramaswamy & Gouillart, 2008; Binkhorst & Den Dekker, 2009; Ramaswamy, 2009a, 2009b; Huang & Hsu, 2010; Ramaswamy, 2011). In addition to co-creation determining the nature of contemporary experiences, currently, a second major factor appears to impact upon experiences, namely technology (Prahalad & Ramaswamy, 2004a).

2.3. Impact of ICTs on the Experience

One of the most far-reaching changes to society in the 21st century is the proliferation of information and communication technologies (ICTs). The technological advancements of the past years have not only had a great impact on society and people's everyday lives (Crouch & Desforges, 2003), but have also determined the way various sectors, including the tourism industry, operate (Buhalis, 2003; Middleton, Fyall, Morgan & Ranchhod, 2009). As one of the fastest growing industries in the world, travel and tourism has always been at the forefront of technology adoption (Sheldon, 1997) and has taken advantage of the synergies between technology and tourism (Buhalis & Law, 2008). The role of ICTs in the tourism industry is multifarious. For instance, technology has been ascribed a key role in the operation, structure and strategies of tourism organisations (Buhalis, 2003; Buhalis & Law, 2008), a central element in the innovation of products, processes and management (Hjalager, 2010), and an enabler of

opportunities for tourism organisations to attract and retain visitors (Werthner & Klein, 1999).

Considering this impact, it is unquestioned that the technological developments imply numerous challenges (Benckendorff, Moscardo & Murphy, 2005; Gretzel, Fesenmaier, Formica & O'Leary, 2006) and at the same time, offer great potential for its implementation in the present and future (Wang, Fesenmaier, Werthner & Wöber, 2010). The advent of technology has not only caused radical changes (Cetinkaya, 2009) but has revolutionised the very nature of the tourism industry. Its pervasive adoption throughout the industry has brought fundamental implications for the way travel is planned (Buhalis & Law, 2008) and the tourism product is created and consumed (Prahalad & Ramaswamy, 2003; Stamboulis & Skayannis, 2003). This is particularly true for the case of tourism experiences. As early as 1998, Pine and Gilmore remarked that emerging technologies would generate new types of experiences via tools such as interactive games, chat rooms or virtual realities. Indeed, since their work in the 1990s, experiences have been profoundly affected by the plethora of ICTs.

As in many other industries, the arrival of the Internet with its multiple purposes inherent as source of information, user generated content and platform for interaction, has played a particularly critical role in changing the tourism industry (Buhalis & Law, 2008; Schmallegger & Carson, 2008). It has fostered the new prosuming tourist, who is more knowledgeable and empowered in the search for experiences and extraordinary value (Buhalis & Law, 2008). The subsequent emergence of the Web 2.0 and social media has implied even more drastic changes for the tourism industry by turning the Internet into an immense space of social networking and collaboration of users (Sigala, 2009). The Web 2.0 has been portrayed as 'a set of economic, social, and technological trends that collectively form the basis for the next generation of the Internet – a more mature, distinctive medium characterised by user participation, openness, and network efforts' (O'Reilly, 2006, p.4).

In this context, social media have gained immediate popularity, as 'a group of Internet-based applications that build on the ideological and technological foundations of Web 2.0, and that allow the creation and exchange of User Generated Content' (Kaplan & Haenlein, 2010, p.61). Recent studies describe the adoption and potential of social media in the tourism industry as enormous (Miguens, Baggio & Costa, 2008; Schmallegger & Carson, 2008; Fotis, Buhalis & Rossides, 2011; Dwivedi, Yadav & Venkatesh, 2012; Hays, Page & Buhalis, 2012). Besides the impact of the Web 2.0, the development of mobile technologies has caused one of the most significant changes to tourists experiencing travel. The advances of the mobile market are highly relevant to tourism, as one of the industries that can use the advantages of the mobile information medium most (Brown & Chalmer, 2003; Umlauft, Pospischil, Niklfeld & Michlmayr, 2003). Due to their ubiquity, constant connectivity and access to information anywhere and anytime (Green, 2002), mobile technologies have led to a behavioural transformation of tourists from "sit and search" to "roam and receive" (Pihlström, 2008). Hence, Bouwman et al. (2012) claim that mobile services bring the Web even closer to consumers by enabling information retrieval anywhere at any time. Considering these developments, it is evident that ICTs have a major impact on consumer experiences (Kim & Ham, 2007; Law, Leung & Buhalis, 2009) and particularly on tourism experiences, as confirmed by multiple studies in the past (Crouch & Desforges, 2003; Stamboulis & Skayannis, 2003; Tussyadiah & Fesenmaier, 2007; Tussyadiah & Fesenmaier, 2009).

Yet, it appears that most of them have only touched upon technology by recognising the impact and importance of technology or by exemplifying single scenarios of use in the context of the tourism experience (e.g. Prahalad & Ramaswamy, 2004a; Binkhorst & Den Dekker, 2009; Ramaswamy, 2009a). Darmer and Sundbo (2008) and Gretzel and Jamal (2009) however claim that ICTs will support new types of activities which will transform existing and lead to new types of tourism experiences. With the dynamics of ICTs changing creation and consumption of the tourism experience, destinations are thus facing a major paradigm shift (Buhalis & Law, 2008). Therefore, Huang and Hsu (2010) argue that it is crucial to capture these changes, whereby it is not the technological development on functional terms per se but rather the integration of technology into the experiences which is of interest (Darmer & Sundbo, 2008). With technology in use, tourists have transformed from passive recipients to connected prosumers co-creating their experiences in a technology enabled destination environment (Prahalad & Ramaswamy, 2004a; Gretzel, Fesenmaier & O'Leary, 2006; Andersson, 2007). Therefore, it is the purpose of this paper to understand these dynamics, implied changes and underlying potential to introduce a new concept for the creation, marketing, and management of destinations experiences.

3. CONCEPTUALISING TECHNOLOGY ENHANCED DESTINATION EXPERIENCES

3.1. Co-creating Destination Experiences

In the context of destinations, marketing and management have mainly focused on targeting the products and services a destination has to offer to a mass market (King, 2002). Hitherto, DMOs have predominantly been operating in traditional processes, driven by political, governmental and regional interests to balance the needs of stakeholders (Buhalis, 2000), while ignoring the needs and wants of consumers. Nevertheless, due to the proclaimed shift in the relationship between providers and consumers (Prahalad & Ramaswamy, 2004a), the dynamics of the market have changed. It is critical to overcome conventional strategies, avoid serial production of experiences and allow for more freedom and meaningful experiences in an equal relation between tourists and the destination (Richards & Raymond, 2000). With tourists being able to choose from a wide range of destinations competing worldwide, destination need new strategies to accommodate these changed conditions to create contemporary, compelling experiences.

Yet, King (2002) argues that despite common claims that more consumer-centric approaches have been adopted, most DMOs are still slow to adapt to these changed conditions. Until recently, tourism was dominated by a company-centric view in which tourists were allocated a passive role and neglected in the design and creation of experiences (Ek, Larsen, Hornskov & Mansfeldt, 2008). However, with consumers taking over the process of co-creation (Boswijk et al., 2007), destinations need to realise that conventional experience creation processes have become obsolete. As a result, the rules of the game have changed and new realities for destination marketing have emerged, which create a completely new point of departure upon which DMOs now need to act (King, 2002). Thus, for destinations to succeed it is critical to fully understand a) *who* is *how* involved in the co-creation of experiences and value, and b) *where* and *how* experiences can be co-created in the context of a destination.

The starting point for DMOs is to acknowledge the individual tourist as key to adding value to the experience (Binkhorst & Den Dekker, 2009). Tourism organisations need to abandon their outdated approaches of targeting a mass market, abdicate their role as the experience producer, and manage to involve tourists in co-creating the destination experiences instead (King, 2002). Destinations need to realise the creative potential of making tourists active participants in the destination setting. This implies that not only tourists are actively, dynamically and creatively involved in the experience but the destination itself needs to find creative ways to allow for such experiences to occur (Richards & Raymond, 2000). To fully embrace this dynamic, tourists therefore need to be recognised in multiple roles as co-producers of the experience (Prahalad & Ramaswamy, 2004a), co-creators of value (Ek et al., 2008; Payne et al., 2008), and co-constructors of the experience space (Mossberg, 2007). For the specific context of destinations, this implies that tourists do not only create their own experiences but become central in the creation of the overall tourist space, i.e. the destination, they are immersed in.

Tourists do not experience the destination space in isolation but rather interact with tourism suppliers, their friends and families and other co-consumers in a dynamic experience co-creation space. Thereby, co-construction of the destination space occurs when tourists are co-creating on a collective level through tourist practices, performances, events, activities or learning experiences they are participating in. Examples of co-creation practice include geocaching, an interactive co-creation experience in a destination space performed by co-consumers; or culinary trails and events across a destination which allow tourists to play an active part in the event and thereby become co-creators of the experience and the overall experience space themselves. In light of this development, Tung and Ritchie (2011, p.1369) underline that DMOs should 'facilitate the development of an environment (i.e., the destination) that enhances the likelihood that tourists can create their own memorable tourism experiences'. As destinations can only create prerequisites for an experience, they need to facilitate a space that is attractive and compelling and allows for valuable experiences to be created (Prahalad & Ramaswamy, 2003). This space should constitute an interactive forum for multiple players, with the tourism consumer as the focal point of the experience, who co-creates with tourism suppliers and co-consumers the experience, value and space in the specific context of the destination, see Figure 1.

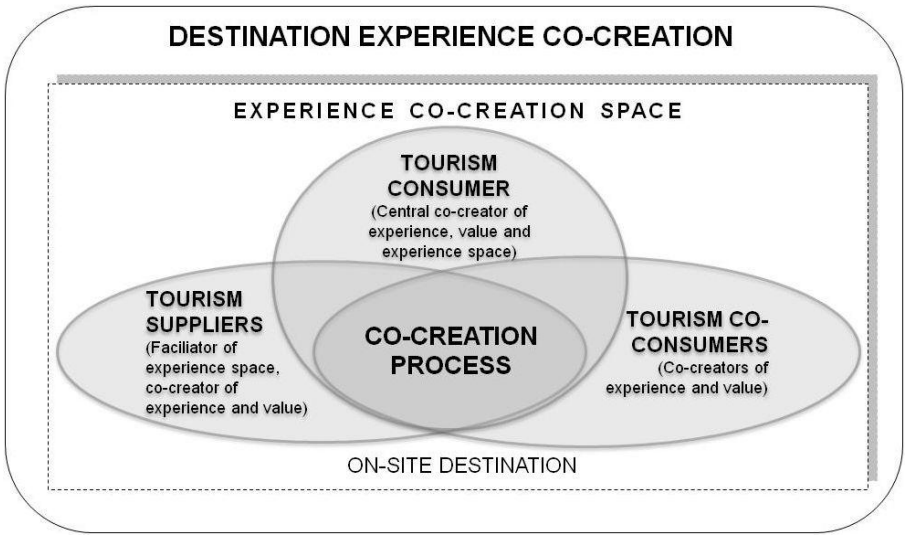

Fig. 1. Co-creating the destination experience. Source: Based on Prahalad &Ramaswamy, 2004a, p.11.

Facilitating the experience co-creation space is paramount for destinations to allow tourists to create experiences and in turn value, which which is key to fostering growth and innovation, and unravel sources of competitive advantage (Shaw, Bailey & Williams, 2011). This is of particular importance to destinations, which by their very nature operate in a highly competitive market (Hudson & Ritchie, 2009). With the proliferation of destination choices (Buhalis, 2000), it is more important than ever before for DMOs to innovate by providing compelling experience and value propositions. For this reason, experience co-creation has been proposed as indispensable to developing a zone of differentiation and value creation (Ramaswamy & Gouillart, 2008).

Nevertheless, Pine and Gilmore (1999) warn that with experience propositions becoming multiplied, only those continuously creating innovative experiences will be able to remain in the market. As the concept of experience co-creation is gaining popularity in the tourism industry (Binkhorst & Den Dekker, 2009), it can be argued that co-creation represents the new benchmark of experience creation. Although still novel in thought and application, tourism businesses need to find more innovative ways to add value to co-creation in order to stand out from the competition. This is particularly essential for destinations which, due to the dynamic and fast changing nature of the tourism industry, must innovate at an accelerated pace (Zach, Gretzel & Xiang, 2010).

Beyond traditional co-creation, this paper posits that technology needs to be considered as *the* key instrument to innovate and enhance co-creation and thereby create richer experiences and add value for the consumer. Buhalis and Law (2008) state that technology is an integral element for the competitiveness of businesses in the tourism industry, which is supported by Cetinkaya (2009) and Zach et al. (2010) who affirm that the adoption of emerging ICTs provides a main source of competitive advantage. In line with van Limburg (2012), the co-creation space must be open for the opportunities brought by emerging technologies through which competitiveness by better co-creation of value can be achieved (Shaw et al., 2011). To take the lead in experience creation, DMOs need to not master co-creation, and additionally, realise the potential of technology as a strategic instrument to co-create enhanced destination experiences and distinct value.

Technology Enhanced Destination Experiences

ICTs become increasingly implemented in the co-creation of tourism experiences. As previously indicated, technology has drastically affected DMOs in the ways in which business is conducted and above all, how consumers interact with the organisation (Buhalis, 2003). The Internet in particular holds great potential as a vehicle for co-creation, as a facilitator that allows tourists to better communicate and interact (Buhalis & Law, 2008) and destinations to establish closer relationships with their consumers (Buhalis & Licata, 2002). Numerous studies (e.g. Tussyadiah & Fesenmaier, 2007; Binkhorst & Den Dekker, 2009; Gretzel & Jamal, 2009; Tussyadiah & Fesenmaier, 2009) attest that ICTs support experience co-creation in a number of different ways.

For instance, websites, portable city guides, travel guides, virtual life or hotel room enhancement (Binkhorst & Den Dekker, 2009) are all cutting-edge examples of technology enhancing the experience. From the variety of ICTs available, the Web 2.0 can be considered as one of the most relevant technological developments in relation to co-creation, as according to Sigala (2009, p.1345), it ‘enables online consumers to become co-marketers, co-producers, and co-designers of their service experiences by

providing them a wide spectrum of value'. The plethora of social interaction tools available on Web 2.0, including blogs, videos, wikis, fora, chat rooms or podcasts, encourage individuals to co-create their experiences with others more than ever before (Ramaswamy, 2009a). Dwivedi et al. (2012) highlight that particularly social media sites, such as Facebook, YouTube, Twitter or Flickr, enable DMOs and tourists to build a platform to interact, comment and share their experiences, and build a sense of experience community (Hays et al., 2012).

With new forms of ICTs emerging over the coming years, co-creation is expected to flourish even more (Etgar, 2008). Thus, the question is not whether technology impacts on the experience (Buhalis & Law, 2008; Law et al., 2009), but rather, how technology changes the destination experience and how to use its full potential to enhance the co-creation of destination experiences, generate added value and in turn competitive advantage. In order to act upon this change, DMOs need to understand the use of ICTs in experience co-creation. For this purpose, this paper suggests to compartmentalise the experience creation process to develop a detailed understanding of a) where and b) how to use technology alongside the different stages of travel to enhance the experience co-creation.

Technology Enhanced Experience Co-Creation Space

By integrating technology, this paper posits that experience co-creation is taken to a whole new dimension. Due to the increasing force of the Internet, ubiquitous connectivity of mobile technologies, and engaging nature of social media, there is now evidence that interactions between companies and individuals have 'exploded on an unprecedented scale everywhere in the value creation system' (Ramaswamy, 2009a, p.17). This means that ICTs, by accompanying the tourist with any device, anywhere, anytime, are dispersing interactions by introducing new possibilities to co-create experiences everywhere along the value creation system, i.e., the whole customer journey. The tourism experience has been widely represented as a multi-phase phenomenon in terms of its chronological or temporal nature (Clawson & Knetch, 1966; Arnould & Price, 1993; Craig-Smith & French, 1994). Hence, the experience is not restricted to a single service encounter on-site but consists of a pre, during and post travel stage (Stickdorn & Zehrer, 2009). For destinations this implies that the experience begins long before the actual encounter in the experience space, i.e. destination, and continues long after the return of the tourist to the home environment (Green, 2002; Gretzel, Fesenmaier, Formica, et al., 2006; Gretzel, Fesenmaier & O'Leary, 2006; Gretzel & Jamal, 2009; Tussyadiah & Fesenmaier, 2009; Huang, Backman & Backman, 2010; Fotis et al., 2011).

Technologies are central to the whole journey, as they accompany the tourist from the anticipatory stage, through the destination on-site, to the recollection phase (Gretzel & Jamal, 2009; Tussyadiah & Fesenmaier, 2009). In this process, ICTs support tourists throughout various activities, such as preliminary information search, comparison, decision making, travel planning, communication, retrieval of information and post-sharing of experiences. Depending on their respective needs, tourists employ a wide range of tools, such as websites, travel blogs, recommendation systems, virtual communities or mobile technologies to facilitate and enhance these actions (Gretzel, Fesenmaier & O'Leary, 2006; Buhalis & Law, 2008). With technology being present in all stages, the traditional experience co-creation space, as postulated by Prahalad and Ramaswamy (2004a), hence undergoes a significant change. Beyond the co-creation space on-site, ICTs unclose a new space in the pre- and post-travel stages, where the

destination, tourism suppliers, tourists and networks of consumer communities interact, not only in a physical but also in a virtual experience co-creation space.

1. Pre Travel: Virtual Experience Co-Creation

According to Gretzel and Jamal (2009), the pre-phase is characterised as an actively involved and socially intense phase. Due to the emergence of the Internet, social media, and virtual worlds tourists are able to experience and assess a destination before their physical travel. Social media, such as Facebook, YouTube or TripAdvisor, allow individuals to experience the destination and live experiences of other consumers, using both their own social circles and unknown co-consumers. Moreover, virtual environments, among the most popular, Second Life, have become attractive platforms for destinations to represent products and services in a three-dimensional online world (Huang et al., 2010). The embodiment through avatars enables tourists to experience the destination in the pre- or post-phases of their holiday (Gretzel & Jamal, 2009). The pre-travel phase is crucial as tourists explore, seek inspiration and interact with the destination. Huang et al. (2010) thus emphasise the opportunities for destinations to use technology to facilitate immersive virtual environments in which they can co-create with consumers and thereby enhance their experiences already before their journey commences.

2. On-site Destination: Physical and Virtual Experience Co-Creation

The actual travel phase, often referred to as the on-site phase in the physical tourism destination, is determined by the tourist being on the move. Different technologies come into use while the tourist is on the move, in transit or at the destination. The increased mobility and availability of ICTs have particularly rendered mobile technologies key tools (Egger & Jooss, 2010), as these enable information retrieval anywhere and anytime (Balasubramanian, Peterson & Jarvenpaa, 2002). Mobile technologies, such as location based services, offer instant access to information, videos or recommendation sites relevant to the current location, which are crucial for destinations to connect, assist, and engage with the tourist in the online environment on-site (Green, 2002).

The connection to social media sites such as Twitter allows tourists to engage with the wider public in real time, share current conditions in the destination and raise particular demands, which destinations can address by co-creating with them virtually. Moreover, mobile devices such as smart phones allow tourists not only to take a photo for themselves but immediately share their experiences with others while experiencing them (Green, 2002). Destination experiences hence reach new levels of interaction. While being immersed in the physical destination setting, tourists not only co-create their experiences with their immediate surrounding but also engage with physically distant environments in which they share and interact with friends, peers, tourism providers, locals and other consumers. The on-site phase can thus be considered to be the most intriguing phase for DMOs, with multiple levels of engagement that allow destinations to co-create experiences with the tourist in the physical and virtual setting at the same time.

3. Post-Travel: Virtual Experience Co-Creation

In the post-travel stage, technologies help tourists enhance the experience through recollection and remembering previously undergone travel. Social media such as blogs or social networking sites play a critical part in encouraging tourists to interact and share their experiences online (Gretzel & Jamal, 2009). Tussyadiah and Fesenmaier (2009) argue that technologies that allow for sharing multimedia content such as

photographs and videos, with others are of great importance. Likewise, travel review websites, such as TripAdvisor, play an important part for tourists by post-sharing their experiences, views, recommendations and suggestions with likeminded individuals (Gretzel, Yoo & Purifoy, 2007). The post-travel stage is therefore critical for destinations to engage with former tourists in order to co-create their lived experiences (Gretzel & Jamal, 2009). While reconstructing past experiences, this stage simultaneously demarcates the beginning of the dreaming stage of the next travel, where ideas and inspiration for future holiday destinations are gathered (Fotis et al., 2011).

Conceptual Model: Technology Enhanced Destination Experiences

ICTs have drastically changed the nature of the tourism experience by empowering co-creation and extending the space in which experiences can be co-created. Elaborating on the foregone discussion this paper proposes a novel and holistic conceptualisation of Technology Enhanced Destination Experiences, in Figure 2. The key contribution of this model lies in a) the recognition of an extended destination experience co-creation space (pre, during, post travel), b) the distinction of two levels of co-creation (physical and virtual co-creation) and c) multiple levels of engagement, i.e. the destination with the tourism consumer, tourism suppliers, the social network, and co-consumers.

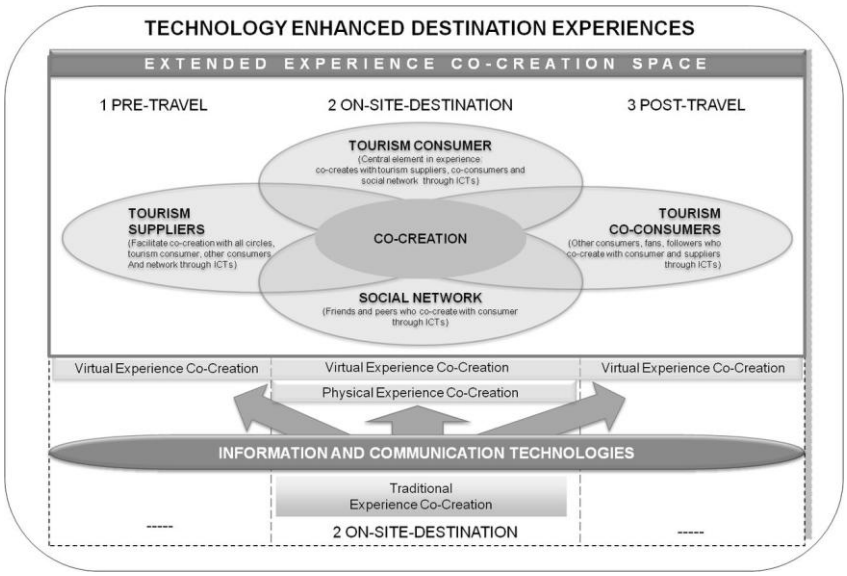

Fig. 2. Conceptual model technology enhanced destination experiences

a) Extended Experience Co-Creation Space

This paper goes beyond the traditional understanding of co-creation, conceptualised as taking place on a marketplace within the physical destination space (Prahalad & Ramaswamy, 2004a). An extended experience co-creation space is proposed that also includes co-creation processes in the pre-travel and post-travel stages. Inversini and Buhalis (2009) affirm that with the advent of the Internet, geographical and cultural boundaries have continuously dissolved and have enabled human beings to experience tourism products and destinations without actually being in the place (Buhalis & Law, 2008). By using technology, experiences are no longer only created in the tourist space, but also in the context of everyday life, reflecting both the anticipatory and recollection stage of the tourist experience in the mundane environment (Tussyadiah & Fesenmaier, 2009). This has caused a major compression of space and time (Tussyadiah &

Fesenmaier, 2009) and a blurring of boundaries between home and away (Uriely, 2005; Gretzel & Jamal, 2009). This de-differentiation leads to the recognition of an overall experience co-creation space by considering the pre- and post-travel stages as an extension of the on-site destination experience. As more dynamic views of time and space are needed in the tourist experience (Ek et al., 2008), this paper suggests that by using ICTs as a facilitator, DMOs now operate in an extended physical and virtual experience co-creation space.

b) Physical and Virtual Co-Creation

This conceptualisation suggests that there exists a virtual space not only in the pre-travel and post-travel stages but also in the on-site stage. With the adoption of mobile services, tourists are connected to virtual channels, which add a virtual layer to their physical movement in the destination. The on-site destination experience is hence no longer limited to engagement with the immediate physical surrounding. Rather, it involves an interaction with the virtual environment of the tourist, including a network of friends, tourism suppliers and co-consumers, who are all inter-connected and co-create the destination experience together. This implies great opportunities for DMOs to enhance on-site experiences in two ways. First, by engaging with tourists through virtual platforms, DMOs can identify potential tourists' needs and co-create by virtually providing real-time and personalised information or recommendations to enhance tourists' physical destination experience. As tourists are less willing to wait or accept delays (Buhalis & Law, 2008), providing them with information at the right time in the right place thus constitutes an invaluable enhancement of the experience. Second, DMOs can gather information in the virtual space and use it for enhancing experiences in the physical space. For instance, by connecting with Foursquare, DMOs can use tourists' check-ins to create surprise and incentives in the physical destination experience. Considering these differences in the use of co-creation spaces, this paper conceptually distinguishes between a physical and a virtual co-creation space.

c) Multiple Levels of Engagement

As technology unfolds new spaces of co-creation, multiple individuals become connected. The use of Web 2.0 technologies has particularly facilitated a collective virtual space in which the tourist consumer is connected with a whole network of people, including friends, family and peers. In addition to familiar individuals, the tourist consumer is also connected to a wider social network of followers, visitors, tourists and fans, who enjoy engaging, interacting and sharing experiences about a particular destination. With ICTs in place, this paper puts forward multiple levels of engagement which go beyond the dual business-to-consumer (BC2) or consumer-to-consumer (C2C) terminology. This is in line with Prahalad and Ramaswamy (2004b) who argue that with increasing levels of interaction, I2N2I, a flow from individuals to the nodal firm and its network and back to the individual, needs to be recognised. In this vein, DMOs need to exploit the potential of multiple levels of engagement by bringing the network of individuals associated with the destination together and encouraging them in the co-creation of their destination experiences.

4. IMPLICATIONS FOR DMOs

The new conceptualisation aims to provide DMOs with a better understanding of how two recent paradigm changes give rise to a new concept, namely Technology Enhanced Destination Experiences, for the marketing and management of destinations. It illuminates how these developments have affected the conditions of destination experience creation and suggests how DMOs can use the full potential of co-creation

and technology to become leaders in the facilitation of successful destination experiences. Having stressed the necessity to move from tourism products to services and to providing experiences (Experience Economy), onwards to the recognition of the consumer who actively co-creates experiences with the destination (Experience Co-Creation), the next crucial step is to innovate by facilitating and enhancing experience co-creation through technology (Technology Enhanced Experience). This leads to new perspectives for the practice of marketing and management of destination experiences. As a core element of the tourism industry, destinations need to embrace the opportunities offered by emerging ICTs and start facilitating an extended destination experience space on both physical and virtual levels. In contrast to conventional, i.e., non-technology-enabled experiences, the integration of ICTs will help tourists co-create better experiences (Prahalad & Ramaswamy, 2004a), generate richer experiences (Tussyadiah & Fesenmaier, 2007) and have more personalised experiences (Niininen, Buhalis & March, 2007; Sandström, Edvardsson, Kristensson & Magnusson, 2008), which will lead to added value for the tourist and in turn competitive advantage for the destination.

Technology hence needs to be regarded as the key instrument for strategic innovation of co-creation and competitive positioning. It is crucial that DMOs still focus on their core competencies, products and experiences, but in addition to that, utilise ICTs in order to maximise and enhance the co-created experience. The role of the destination as the facilitator of the physical co-creation space remains the same. What has changed significantly, however, are the multiple spaces, levels of engagement and networks of interaction that can now be exploited by DMOs.

To further strengthen the understanding and implications of Technology Enhanced Destination Experiences for destination practice, this paper wants to draw attention to a number of current best practice examples in the industry. *Thailand* can be considered as a best practice example of a technology enhanced destination experience in the virtual co-creation space, both pre- and post-travel. The Thailand DMO's website features tools such as videos, images and user-generated stories that particularly enhance the virtual pre-travel experience by inspiring, pre-living experiences and encouraging individuals to come to Thailand. Additionally, Thailand focuses on consumer-to-consumer co-creation by means of storytelling to engage tourists in their post-travel phase to remember and share their experiences and at the same time allow prospective tourists in their pre-travel stage to get inspired by real-life stories. *Montreal* can be named as a second best practice example, as it features an interactive video on the website which takes tourists through different destination experiences. As tourists actively guide and interact with the video, a high level of consumer involvement and co-creation with the destination is achieved. The integration of interactivity not only enables the users to find better information but makes them more engaged and inspired while increasing the likelihood of the destination visit.

Besides these examples, a number of further destinations need to be mentioned. For instance, *Las Vegas* provides creative personal itineraries and idea generators, *New Zealand* provides an interactive Trip planner with integrated maps, price ranges, and types of activities to choose from. Co-creation on a consumer-to-consumer level is specifically encouraged by destinations such as *Vancouver,* which exemplifies the value of customer engagement by integrating Tripadvisor in their website. Similarly, the *Canadian DMO* website focuses on facilitating customer-to-customer engagement with a feature called "Explore Canada like a local" which allows tourists to gather advice from locals and travellers who know Canada. In this regard, *Visit Sweden* can be named as leader in co-creation among consumers by developing a platform called "Community

of Sweden", which is entirely consumer-led and allows them to interact and share experiences about their destination online.

While the majority of DMOs using ICTs focus on virtual pre-travel and post-travel elements, there is also increasing evidence of destinations embracing the virtual co-creation space on-site. Prominent examples include *VisitEngland* offering the "Enjoy England" travel application, which allows tourists to gather ideas and personalise their search according to indoor/outdoor activities, must-see places and budget available. By allowing direct connection to Facebook and Twitter, the live experience in the destination can be shared with the social network of friends, families and followers. In a similar vein, *Hong Kong* provides a mobile application named "DiscoverHongKong Mobile App Series", which was one of the first travel applications worldwide to integrate augmented reality technology. Moreover, *VisitBritain* offers "LoveUK", a mobile application which is completely consumer generated by listing the top 100 locations of the UK ranked by tourist's Facebook check-ins. Hence, *VisitBritain* places travel suggestions in the hands of tourism consumers who co-create by determining the must-see places of a destination through their collective behaviour and preferences.

The ways in which the above DMO's realise Technology Enhanced Destination Experiences demonstrates the importance of implementing ICTs to engage, co-create and enhance the overall destination experience throughout all stages, before, during and after travel. As leading destinations adopt ICTs, it is increasingly important for all other destinations to keep up with the dynamics of the market and innovate to remain competitive. Therefore, destinations not yet embracing ICTs in the creation of their experiences need to act as the future of the innovative destination lies in the creation of technology enhanced experiences.

5. CONCLUSION

The notion of creating experiences has become paramount for successful destination marketing and management. Considering that the competitiveness of destinations heavily relies on minimising the interchangeability and replicability of tourism products and services and on maximising the creation of rich experiences (Pine & Gilmore, 1999), it is crucial for DMOs to gain an in-depth understanding of the paradigm shifts changing the conditions they are operating in. To that end, the present paper set out to introduce and conceptualise Technology Enhanced Destination Experiences. In reviewing the theoretical background of the experience economy, experience co-creation and ICTs, the paper has recognised two major shifts are profoundly changing the nature of experiences and transforming how destinations will create experiences: a) tourists are co-creating their own experiences, and, b) technology can be used to co-create enhanced experiences. This paper aimed to address questions that are critical for destinations wanting to understand this new phenomenon on multiple levels, by answering *who* is co-creating, *where* co-creation occurs and *where* and *how* technology comes into play in the co-creation of enhanced destination experiences.

Whilst most literature to date has focused on the creation of experiences on-site, this paper goes further to suggest that through technology experience co-creation can reach a new level. By introducing the novel concept of *Technology Enhanced Destination Experiences* it is argued that the plethora of ICTs, particularly those enabled by mobile technologies and social media platforms, allow DMOs to not only co-create experiences in the physical destination space on-site but to extend experience co-creation into a virtual space. This leads destinations to operate in a new multi-phase experience co-creation space of a physical and virtual nature in the pre-/during-/post- stages of ravel.

The paper concludes that technology thus needs to be understood as the main source of innovation, strategic differentiation and competitive advantage for the successful co-creation of experiences in the future. Technology is the key instrument for destinations to foster co-creation in multiple experience spaces, multiple levels of engagement and networks of interaction enabling richer, more personalised experiences and distinct value for the tourist. The successful destination of the future will therefore be the one that strategically and effectively integrates ICTs in all structures, communications and interactions to dynamically co-create technology enhanced destination experiences with tourists in all travel stages.

To conclude, as Binkhorst and Den Dekker (2009) state, we are only at the beginning of experience co-creation research in tourism. This paper argued that this is even more the case in research that focuses on using ICTs to co-create enhanced experiences. This paper has contributed by providing an initial conceptualisation of *Technology Enhanced Destination Experiences*. Although by no means a final and complete conceptualisation, it introduces novel thoughts on destination experience creation that might serve as the first step in a new approach to experience creation in theory and in practice. This study undoubtedly leaves open many questions that are to be addressed in the future. Building on the conceptual propositions of this paper, an agenda for future research on technology enhanced experiences needs to be set out to both strengthen the theoretical basis and extend the implications for destination marketing and management. To develop further this new experience concept, empirical consumer-centric studies are needed to uncover how to specifically use different types of technologies to facilitate experience co-creation within destinations, and how to exploit the virtual co-creation network of tourism providers and consumers to maximise the co-creation potential for enhanced destination experiences in the future.

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Appendix 14.4: Book Chapter 1

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Innovation through Co-Creation: Towards an Understanding of Technology-Facilitated Co-Creation Processes in Tourism

Abstract

Society and industries have undergone a profound shift as consumers have shifted from the idea of merely buying products towards playing an active role in the consumption process. With intensified competitiveness and dynamics on a global scale, businesses have increasingly recognised opportunities differentiate themselves by empowering and involving consumers in the co-creation of their consumption experiences. Recent literature has recognised this trend by depicting consumers in multiple roles as participants of the crowd, co-producers of the products and services and co-creators of experiences and value. The possibilities for consumers and companies to engage and co-create in consumption process have been particularly driven by technology as a main catalyst of change. While recent studies have produced a large body of knowledge on co-creation processes, its understanding through the lens of technology in the specific context of tourism remains scarce. In light of these developments, this chapter aims examine the notion of consumer involvement for innovation through technology-facilitated co-creation processes. This chapter contributes in a three-fold way, in that it interlinks innovation, co-creation and technology, develops a classification of technology-facilitated co-creation processes in the context of tourism and draws relevant implications for current tourism research and practice.

Keywords: innovation; co-creation processes; consumer empowerment; technology;

1 INTRODUCTION

Numerous industries have undergone a substantial change with consumers no longer merely seeking to buy products and services but becoming increasingly active and involved in the consumption of their products and services. In line with this societal trend, the notion of consumer centricity has become a well-established concept in recent years. With intensified global competition, challenging markets and dynamic technologies, businesses have recognised the need differentiating themselves by innovating at an accelerated pace. The empowerment of consumers as co-creators of their consumption experiences has become a central notion companies strive to achieve. Several concepts have emerged to describe this trend. The notions of co-creation, co-production, crowdsourcing and open innovation all describe the underlying premise of integrating the customer as a key resource in consumer-oriented innovation processes. By recognising consumers in multiple roles as co-participants of the crowd, co-producers of products and services or co-creators of experiences and value, the literature has led to the emergence to rich diversity of terminologies capturing the highly empowered nature of contemporary consumers.

The notion of consumer involvement has particularly been driven by one key facilitator. Information and communication technologies (ICTs) have transformed the role of consumers in product and service development, consumption and experience. The Internet and Web 2.0. platforms have become a catalyst of change that has not only impacted on the way businesses and consumers interact but has fundamentally transformed *the way how* and *by whom* tourism products, services and experiences are designed, created and consumed. The plethora of social media and networking tools has opened up unprecedented opportunities to engage consumers along the service value chain. While the conceptualisation and study of co-creation has received considerable attention in services marketing, its debate in the tourism and technology domain merits further exploration.

2 PURPOSE OF THE CHAPTER

It is with this premise in mind that the chapter aims to discuss innovation through co-creation, by interlinking the notion of consumer involvement and technology to explore how its combination can lead to innovation in the tourism industry. To advance the discourse in the literature, this chapter offers a holistic appraisal of consumer involvement and co-creation processes in tourism by accentuating differences and similarities of several processes when the factor technology comes into place. The chapter is structured into three main sections. The first part presents an overview of relevant theoretical developments within innovation and consumer empowerment. By examining the idea of consumer centricity in detail, it sheds light on three customer involvement processes, including crowdsourcing, co-production and co-creation to develop a differentiated understanding of these processes in the context of tourism. The second part offers a discussion and classification of technology-facilitated co-creation processes. It outlines several key differences and similarities and presents practical best practice examples from the tourism industry. The third part discusses the theoretical implications of these developments and offers an outlook on the future agenda for open innovation in tourism management and practice. Overall, the chapter contributes to a more effective understanding of the role of consumers and technology as drivers of innovation in the future creation of competitive tourism services and experiences.

3 THEORETICAL BACKGROUND

3.1 Innovation through Customer Involvement

Travel and tourism businesses operate in a sphere of increased competitiveness globally. Due to increasingly dynamic and fast-changing processes, consumer demands and product innovation, tourism businesses are faced with unprecedented challenges. Intensified global competition, fluctuations in tourism demand and the increase of customer expectations capture some of the most powerful challenges at present (Williams, 2012). To address these developments, tourism businesses are forced to identify new means of developing competitive advantage (Walls et al., 2011). This is particularly true for tourism businesses, which due to the dynamic and fast changing nature of tourism, are required to innovate at an accelerated pace (Zach et al., 2010). Exploring new ways of innovation has thus become an imperative.

The term *innovation* represents a complex concept with numerous definitional approaches contributing to its meaning. Generally it can be described as a process that introduces an idea to a problem that is perceived as new in a specific context. As such, it can be understood as the generation or implementation of new ideas, processes or services (Hjalager, 2010). Due to its complexity, the existing literature differentiates multiple levels, types and categories of innovation. For instance, it can range from

radical innovation, introducing entirely new products and services, towards minor and incremental innovation indicating adaptation of pre-existing services (Ottenbacher and Harrington, 2010). Moreover Hjalager (2010) emphasises the need to distinguish between product and service innovation, process innovation, managerial, management and institutional innovation.

Traditionally, innovation has been established in production-dominant sectors, such as finance, transport and telecommunications (de Jong and Vermeulen, 2003), while innovation in the service sector has been lagging behind (Droege et al., 2009). This is also the case for tourism, an industry in which innovation efforts have been described as rather slow (Pikkemaat and Peters, 2006) in spite of its importance (Hjalager, 2010, Shaw et al., 2011, Zach et al., 2010). In recent years, it has become important than ever before for tourism businesses to innovate effectively, as tourism offers and destination choices proliferate on a global scale (Hjalager, 2002, Ritchie and Crouch, 2003). Only more recently, the concept of innovation has received increasing attention, particularly in the field of new service development (Fitzsimmons and Fitzsimmons, 2000, Sigala, 2012b). In this growing body of literature, one of the key principles suggested is the need for a proactive market orientation (Sanden, 2007) and a shift towards interaction-dense services (Ottenbacher and Harrington, 2010).

In this vein, the notions of *customer centricity*, *empowerment* and *involvement* have been highlighted as main driving forces of the new service development (Sigala, 2012b). New service orientation is about putting the consumer in the centre and being proactive by recognising consumers and addressing their needs before they emerge (Ramaswamy, 2009a). These developments have led to the wider acknowledgement of consumers and marked the beginning of a new paradigm in marketing that places consumer centricity as a key principle to foster innovation, competitive advantage and growth (Shaw et al., 2011, Sigala, 2012a).

3.2 Customer empowerment and the rise of the consumer

In today's society, consumers are more empowered than ever before. In the late 1990s, people have shifted from merely buying manufactured products and services towards a growing pursuit of interactive consumption experiences (Morgan et al., 2010). In services and tourism marketing, the concepts of the experience economy have long provided a valuable vehicle to design, stage and deliver experiences to consumers, while fostering economic value and competitive advantage. Traditionally, the creation of services and experiences has been inspired by the underlying economic interest of how to increase turnover by selling experiences as new de-materialised commodities (Darmer and Sundbo, 2008, Stamboulis and Skayannis, 2003). However, industrialisation, economic values and capitalist thinking primarily drove the business-focal perspective of producing *experiences for consumers*. With a radical shift in company-consumer relationships, the experience economy has therefore been raised to question, as an approach that does not sufficiently reflect the needs and wants of contemporary consumers (Boswijk et al., 2007).

In the past decade, society has undergone a transformation towards the centricity of individuals and their human experiences in quest for personal growth (Prahalad and Ramaswamy, 2004). This has led to the emergence of a '*prosumer society'* reflecting consumers as being actively involved, not only in the consumption but also in the production of products, services and experiences (Ritzer and Jurgenson, 2010). This novel mind-set has especially been fostered by Prahalad and Ramaswamy (2004) who argue that consumers want to have a say in co-shaping and creating their own

experiences. They expect a sense balance between themselves and the provider, who traditionally was the sole experience stager (Binkhorst, 2006, Ramaswamy and Gouillart, 2008). By doing so, consumers have adopted active roles and have become prosumers, protagonists, post-consumers or consum-actors actively involved in consumption processes.

Consumers use their new power to share their opinions, complain, negotiate, endorse, interact and co-create experiences (Cova and Dalli, 2009). This means that the roles of companies and consumers in the production and consumption are no longer distinct (Ramaswamy, 2011) interaction occurring at the end of the value chain, at the moment of the sale of the product (van Limburg, 2012). The new principles of customer involvement foster consumers as empowered individuals to collaborate as a resource in processes traditionally performed by the company. Consumers want to contribute with their own resources, which allows them to transform a simple service encounter into an experiential and valuable experience (Cova and Dalli, 2009). In this changed paradigm, the consumer as an individual, rather than the company, is regarded as the starting point in the new service development (Sanden, 2007) and the central element driving the co-creation process (Binkhorst and Den Dekker, 2009).

3.3 Customer Centricity and the Co-creation Paradigm

The increased consumer involvement has opened a new era in marketing, widely acknowledged as the co-creation paradigm. Co-creation describes a collective and collaborative process, a joint value creation between the company and the consumer (Cova and Dalli, 2009, Payne et al., 2008, Prahalad and Ramaswamy, 2004, Vargo and Lusch, 2006, Xie et al., 2008). While Prahalad and Ramaswamy (2004) were among the first to introduce the notion of co-creation. A wide body of literature has contributed to advancing the theoretical foundations and current understanding of experience co-creation (Binkhorst and Den Dekker, 2009, Edvardsson et al., 2005, Huang and Hsu, 2010, Payne et al., 2008, Prahalad and Ramaswamy, 2004, Ramaswamy, 2009a, Ramaswamy, 2009b, Ramaswamy, 2011, Ramaswamy and Gouillart, 2008, Vargo and Lusch, 2004). These studies have analysed the diverse roles of consumers in the consumption, production and interaction with businesses and have added to a more differentiated view of the concept.

In contributing to the wide debate on this paradigm, recent work has produced a wealth of terminologies and concepts advancing, extending and refining the concept of co-creation. For instance, scholars have conceptualised prosumption (Ritzer and Jurgenson, 2010), co-creation (Prahalad and Ramaswamy, 2004), co-production (Etgar, 2008), service-dominant logic (Vargo and Lusch, 2004), customer-to-customer co-creation (Huang and Hsu, 2010), crowdsourcing (Geiger et al., 2011) as well as the notions of working consumers, collaborative innovation, consumer agency and consumer tribes (Cova and Dalli, 2009). Despite the emergence of new literature in the field, existing terminologies are rather fluid, often used interchangeably, while clear differentiations and boundaries between single concepts are difficult to define (Chathoth et al., 2013). Therefore, the following section aims to provide an overview to the reader of the dominant concepts to allow for a more differentiated understanding of co-creation processes. Following the three concepts of crowdsourcing, co-production and co-creation are assessed.

3.3.1 Customer Involvement Process: Crowdsourcing

Crowdsourcing has been defined as a term that embraces a number of approaches based on the integration of a large and open crowd of people (Geiger et al., 2011). While the

principal idea of crowdsourcing has existed for a long time, the term has only been coined in 2006 when it has emerged as a popular concept in numerous industries. Crowdsourcing can be described as an activity, traditionally company-led, that is now outsourced to a wider crowd by openly calling individuals to participate (Geiger et al., 2011). Drawing upon the involvement of consumers it is a 'crowd of people who help solve a problem that is defined by the system owners" (Doan et al., 2011).

The crowd thus consists of people that are undefined or preselected, representing one large network of people who, to different extents, make an integrative and aggregated contribution to a defined purpose or goal (Howe, 2006). With the rise of the Web 2.0, crowdsourcing has reached its peak of application by opening numerous involvement processes, such as crowd wisdom and collective intelligence, user generated content, crowd voting or crowdfunding initiatives (Howe, 2006). Crowdsourcing has thus become an effective means for companies to outsource processes, which traditionally occurred internally, to a crowd of individuals aimed at performing specific goals.

3.3.2 Customer Involvement Process: Co-Production

Co-production has become a widely used term reflecting the notion of customer involvement (Chathoth et al., 2013). Co-production has been recognised as key mechanism between companies and consumers in exchange (Bitner et al., 1997) and defined as an interactive nature of services (Yen et al., 2004). Co-production has been applied in numerous industries, in which customers have become participants of service encounters, such as haircuts, consultation or education. Essentially, co-production practices require the consumer to be physically present to receive the service, while being asked to provide information that is used in turn to deliver the service more effectively (Yen et al., 2004). Co-production is thus a company-centric approach of customer involvement (Payne et al., 2008), in which the company retains the main role while consumers are offered a limited choice in contributing to a pre-designed service bundle (Chathoth et al., 2013).

Examples in tourism include hotel personalisation, where customers can choose from a selection of defined options, such as pillows, meals or newspapers to best fit the personal needs and preferences. This approach allows for a-priori definitions of what "suits needs of what is available", while latent needs of consumers remain unmet. For instance, if a hotel offers strong and soft pillows, the hotel does not find idiosyncratic needs but only knows the customer's favourite choice of the available (Chathoth et al., 2013). As much potential of real consumer involvement is missed in co-production, co-creation allows for a more bottom-up, consumer-centric approach.

3.3.3 Customer Involvement Process: Co-Creation

In today's economy, companies and consumers are collaborating more and more (Romero and Molina, 2011). Co-creation is a customer-centric approach based on the principles of putting consumers first and recognising them as the starting point of experience and value creation (Vargo and Lusch, 2004). Co-creation, based on the underlying premise of value-in-use in service dominant logic (S-D logic), suggests that experiences and value are created *with* the consumer rather than *for* the consumer (Vargo and Lusch, 2004). Co-creation is built on two main foundations as it a) involves the consumer's participation in the creation of the core offering and b) "value can only be created with and determined by the user in the 'consumption' process and through use" (Vargo and Lusch, 2006, p. 284).

This means that value does not automatically exist in products and services, but for value to emerge, experiences need to be co-created by consumer themselves (Payne et

al., 2008). As such co-creation goes beyond co-production, which partially ignores the real potential of consumers, and recognises consumers as the main actor of co-creation. Moreover, due to the impact of ICTs, consumers are more connected than ever before. This has led to the emergence of co-creation as a collective, collaborative, dynamic process that occurs not only between companies and consumers but also among connected consumer communities and stakeholders (Baron and Harris, 2010, Baron and Warnaby, 2011, Huang and Hsu, 2010).

In outlining the main principles of crowdsourcing, co-production and co-creation, several key differences can be highlighted. Co-creation takes co-production one step further in that it allows for a predominantly consumer-centric approach. It not only facilitates dual company-consumer co-creation but also enables co-creation outside the company domain. In contrast to crowdsourcing, which serves a particular company purpose, co-creation puts the individual consumer in experience and value creation first. Crowdsourcing is also distinct in that it mainly focuses on the collectiveness rather than the individual, whereas co-production and co-creation primarily focus on the individual's involvement in and value of the service or experience creation. The increasing proliferation of ICTs has thereby played a key role. Technology has contributed to transforming the level of customer involvement in product and service development and the integration of consumers as a key resource in contemporary innovation processes. It is with this premise in mind that the chapter now turns to discuss innovation through technology-facilitated co-creation. Having reviewed the theoretical developments of different consumer involvement processes, the next section interlinks technology and co-creation and explores how it can be effectively used as a source of innovation and competitive advantage in the tourism and hospitality industry.

4 INNOVATION THROUGH TECHNOLOGY-FACILITATED CO-CREATION

4.1 Impact of Technology on Tourism

One of the most far-reaching changes in the 21st century has been the proliferation of ICTs. The continuous developments in the sector of technology have led to the emergence of the Internet, which has triggered a knowledge-based economy of people transforming the ways in which information has become available and is used. Tourism, as one of the fastest growing sectors in the world, has always been at the forefront of technology with information being the lifeblood of the travel industry (Sheldon, 1997). In this industry, ICTs have enabled increasing consumer independence and decreasing importance of traditional travel distributions by tour operators and travel agents. Technology has evolved into a powerful tool in the operation, structure and strategy of tourism organisations (Buhalis, 2003, Buhalis and Law, 2008) and become a central element in the innovation of products, processes and management (Hjalager, 2010).

The Internet has become a platform for connection of people and businesses around the globe. The Web 2.0 and social media have represented one of the most critical technological developments over the past decade (Dwivedi et al., 2012, Fotis et al., 2011, Hays et al., 2012, Sigala, 2009, Xiang and Gretzel, 2010) by turning the Internet into an immense space of social networking and collaboration (Sigala, 2009). Social media, such as networking sites, blogs, wikis, forums and folksonomies provide a wide range of tools for social engagement and participation of consumers, who are now able to interact, collaborate, share and create content, opinions and experiences with companies and among each other (Sigala, 2009, Xiang and Gretzel, 2010). The prevailing success is evident in many examples, such as Wikipedia in which people co-

create a global knowledge database, TripAdvisor in which tourists rate, write and review tourist experiences, or YouTube and Pinterest as video and visual-image platforms in which users generate, share and co-construct content together.

4.2 Technology in the Co-Creation Paradigm

The proliferation of social technologies has had a drastic impact not only on tourism but also the way services, experiences and value are created (Neuhofer et al., 2012). Over the past decade, it has become apparent that consumer empowerment and co-creation have been fostered by one principal factor, namely technology. Emerging ICTs have triggered new levels of customer centricity, engagement and co-creation and have influenced how tourists and services provider interact. Due to the widespread use of the Internet tools, constant connectivity and engaging nature of social media, co-creation between individuals are maximised with interactions having 'exploded on an unprecedented scale everywhere in the value creation system' (Ramaswamy, 2009a, p.17). With new technologies predicted to emerge over the next years, experience co-creation opportunities are expected to expand further. It will thus become critical for tourism marketing to exploit the tools of the Web 2.0 to allow for more meaningful interrelations with tourists by building platforms and spaces to interact and share experiences.

It is with this premise in mind that the potential of ICTs needs to be assessed for innovation processes through co-creation (Chathoth et al., 2013). While the importance of co-creation has been introduced fairly recently, tourism businesses are urged to innovate and identify new sources to add more value to co-creation experiences. One approach to facilitate more valuable consumer co-creation experiences and enhance the companies' competitiveness, is the implementation of technology (Neuhofer et al., 2012). In fact, the co-creation environment must embrace emerging ICTs (van Limburg, 2012) to maximise consumer involvement and service innovations and unfold new possibilities for tourists to proactively co-create experiences and value in every stage of the travel process (Neuhofer and Buhalis, 2013).

4.3 Technology for Innovation of Co-Creation

In the dynamic tourism market environment, characterised by increased competition, businesses need to find ways for innovation and the creation of compelling experiences. In a response to this market force, tourism organisations have become highly competitive in order to reduce commodification and differentiate themselves by creating more valuable experiences and maximising the potential of co-creation. ICTs represent effective instruments to achieve this goal. Buhalis and Law (2008) argue that ICTs constitute a central element for the competitiveness of tourism businesses, which is supported by Cetinkaya (2009) and Zach et al. (2010) who affirm that the adoption of technology provides a main source of competitive advantage. By taking into account its full potential, Technologies can allow for new ways in which consumers can be involved in innovation and co-creation processes.

Recent literature suggests that the range of ICTs available can support co-creation experiences in a number of different ways (e.g. Binkhorst and Den Dekker, 2009, Gretzel and Jamal, 2009, Tussyadiah and Fesenmaier, 2007, Tussyadiah and Fesenmaier, 2009). For instance, ICTs provide a system for interactions that a) gives consumers more control, b) empowers them to establish closer relationships with the company and c) encourages them to actively co-create their experiences with each other. Moreover, Sigala (2012b) emphasises that the Web 2.0 can be used for active customer involvement in the development of new and relevant customer-centric

services. As a collective space it allows tourists to become "co-marketers, co-producers and co-designers of their service experiences by providing them a wide spectrum of value" (Sigala, 2009, p. 1345).

For tourism organisations to take lead in experience offers, they need to implement ICTs as a source for innovation of co-creation (Neuhofer et al., 2012). Innovation represents a strong decommoditiser to create something new, differentiated and valuable (Pine and Korn, 2011). In this sense, only those companies that make the leap to use technology for the innovation of co-creation processes could find a potential way to reduce commodification and gain competitive advantage long-term. Successful businesses will be the ones able to strategically use ICTs to facilitate customer involvement, co-production, co-creation and crowdsourcing processes. To employ these principles, it is critical to have a full understanding of the different processes that ICTs can support. Thus, the chapter now turns to discuss and classify the three highlighted customer involvement processes through the lens of technology.

4.4 Classification of Technology-Facilitated Co-Creation Processes

Through the use of ICTs, co-creation can be taken to a whole new level. ICTs have enabled new processes of *how*, *when* and *where* consumers can play a role in the creation of their experiences. With ICTs in place, co-creation can occur anywhere throughout the customer journey and service value chain. Recent studies point to a wide range of ICTs that have made this process possible. For instance, virtual communities or Second Life (Binkhorst and Den Dekker, 2009), social networking platforms, blogs or micro-blogging, such as Twitter (Wang and Fesenmaier, 2004), social networking sites, such as Facebook, YouTube or Wikipedia (Ramaswamy, 2009a) all enable the tourist consumer to become engaged and contribute to both the tourist experience production and consumption. For instance, tourists are able to connect with their social media networks to facilitate experiences (Kim and Tussyadiah, 2013), share and exchange information and latest updates. Through ICTs, consumers are connected to a vast network of stakeholders in which they can co-create experiences and value on multiple levels, extents and forms of engagement (Neuhofer et al., 2012).

Technology-Facilitated Crowdsourcing

Crowdsourcing has been a popular concept in a number of service industries and is becoming increasingly facilitated through ICTs in tourism. The technological developments of the past years have provided great opportunities for crowdsourcing by bundling crowd efforts through social media and networking channels online. For instance, AirBnB is a platform of homeowners offering and renting their houses to tourists who want a place to stay with locals. The platform, entirely based on offers from the crowd, provides a variety of accommodation options, ranging from a shared flat in London to an entire castle in Edinburgh. Another prime example of crowdsourcing in the destination context represents VisitBritain. It facilitates crowdsourcing through a mobile travel application. The application UK Top 50, is entirely consumer-generated in that it lists the top 50 locations of the UK ranked by the accumulated number of tourists' Facebook check-ins. The more users check-in online, the higher the ranking of an attraction in the application (Neuhofer et al., 2013).

This example demonstrates that VisitBritain, instead of controlling and predefining popular sites to visit, places its travel suggestions in the hands of the consumers, who determine the must-see places of a destination through their collective behaviour together. Beyond AirBnB and VisitBritain, a number of best practice examples in tourism successfully demonstrate the potential of a bottom-up approach built on

integrating the consumer as a resource for innovation. This means that consumers are not only considered as a source of contribution, but they become the main actor in the process. By doing so, they give businesses critical insights into understanding what consumers truly want by offering them not only a predefined choice but making them generate the content, their experiences and own personal value obtained through this collective, participatory contribution.

Technology-Facilitated Co-Production

Co-production in tourism and hospitality has been mainly focused on the idea of giving consumers choices. The personalisation of service encounters through ICTs can be mentioned as an example of application. Personalisation is achieved through the constant evaluation of the consumer's preferences (Gupta and Vajic, 2000). Thus, it is essential not only to engage consumers but gather relevant information about their needs and preferences. This process can be facilitated through ICTs, which provide excellent tools to collect, store and retrieve information on an unprecedented scale in order to facilitate tailor-made experiences (Piccoli et al., 2003). For instance, the best practice example of the Hotel Lugano Dante has introduced innovation processes through a system called HGRM, Happy Guest Relationship Management to create enhanced experiences with them (Neuhofer et al., 2013).

The platform amalgamates all interactions of staff and guests throughout the entire guest journey. The hotel engages with consumers by collecting information pre-arrival, hotel stay and post-departure stage. The key is to gather information, such as name, buying patterns, pillow, mini-bar, newspaper and other room and consumption behaviours to personalise the guest's stay based on individual preferences. A further example of co-production elements in the hospitality industry is the Inamo Restaurant in London. The eTable technology used allows guests to adapt the colour scheme of the electronic table cloths, control the dining experience, manage the ordering process, waiters, bills and discover the local area, leading to a fully immersive, interactive and co-produced restaurant experience. Beyond the hospitality context, mobile services play an increasingly important role in tourism (Egger and Jooss, 2010), by supporting consumers with location based and context based services, gamification or augmented reality apps on the move (Buhalis and Wagner, 2013). These can be used to personalise settings, find relevant information to the tourist's current geographical location, context, including season, weather, time and preferences, and by doing so, create a personalised service and experience environment for the tourist.

Technology-Facilitated Co-Creation

Social media and Web 2.0 tools, such as Facebook, Twitter, YouTube, TripAdvisor and more recently Pinterest or Vine, have allowed tourists to become generators of content. By being connected to their social networking sites, tourists can share experiences with friends, peers, tourism providers, and other consumers and co-create while still being in the travel location (Tussyadiah and Fesenmaier, 2009). Thus, tourists not only co-create with their physical surrounding, e.g. destination, hotels, attractions, sights or restaurants, but effectively extend their co-creation activities to the online space (Neuhofer et al., 2012). Numerous DMOs provide best-practice examples of how to foster co-creation with tourists. For instance, Sweden, Thailand and Puerto Rico have implemented innovative solutions for users to connect, upload and share images, stories and videos with the travel community (Buhalis and Wagner, 2013). By doing so, co-creation not only occurs with the DMOs but with consumer communities, who can create their pre- and post-holiday experiences together.

Moreover, the cutting edge example of Sol Melia's Sol Wave House successfully demonstrates the use Twitter as a tool for extended co-creation. Being the world's first Twitter-Hotel, hashtags are used throughout the entire hotel to allow guests to co-create with employees, dedicated Twitter concierges (B2C co-creation) and other guests staying at the hotel (C2C co-creation). Additionally, KLM's initiative of social seating underlines the importance of encouraging customer-to-customer co-creation by using ICTs to facilitate that consumers connect, meet and can have an enhanced in-flight experience. In reviewing several different technology-facilitated examples of co-creation, it is evident that consumers be encouraged to actively engage in a number of co-creation efforts. Businesses need to adopt novel and unconventional approaches, which ICTs can support to foster differentiation, innovation and competitiveness of tourist experiences. The classification in Table 1 provides an overview of the foregone review by synthesising their distinct characteristics for a more differentiated understanding of technology-facilitated co-creation.

Table 1. Classification of Technology-Facilitated Co-Creation Processes

Notion	Crowdsourcing	Co-Production	Co-Creation
Consumer Involvement	Active participation in idea generation, content generation, voting, funding	Active company-driven product or service exchange participation	Active consumer-centric experience and value co-creation
Role of the Consumer	One in many (Consumer in a crowd)	Two-way company-led involvement (Company and consumer)	Multi-level involvement (Company, consumer and consumers communities)
Role of the Company	Company defines crowdsourcing goal and leads activities	Company develops product/services and gives consumer a choice	Company facilitates co-creation of experiences and value
Experience Outcome	Crowd-generated, participatory experience	Customised, personalised co-creation experience	Rich, personalised, connected, co-constructed experience and value
Value for the Consumer	Value through participation in process, value through contribution to outcome	Value through customisation and personalisation of product and service	Value through co-created experiences and the co-creation process itself
Innovation through ICTs	Crowdsourcing activities through technology platforms and open calls	Co-production through technology-supported devices for personalisation	Co-creation of rich, meaningful experiences through social and mobile tools in the travel process

To provide tourism organisations and marketers with practical implications of how to innovate through technology-facilitated co-creation experiences, valuable insights can

be gained by looking at existing best practice example across the tourism, hospitality and airline industry. For this purpose, Table 2 provides a summary of best-practice cases that apply innovative approaches of co-creation. In depicting these diverse examples of organisations from a variety of industries, it becomes evident that customer involvement can take many different forms under the umbrella of co-creation. Specifically, this overview shall assist tourism practitioners to take a closer look existing successful examples to understand a) the various forms of consumer involvement, b) the range of ICTs that can be used and c) the various processes (crowdsourcing, co-production, co-creation) that can be applied. Whatever type of process is facilitated, several implications for companies can be defined. These include to a) put the tourist consumer and his/her needs first, b) allow for an active involvement in the co-creation process and c) define which process, based on the particularities of the sector, is the most suitable one for a technology-enhanced experience.

Table 2. Tourism Industry Best-Practice Cases

Type of Creation	Industry Cases	Technology-facilitated Innovation
Crowdsourcing		
	AirBnB	Crowd-based platform of home-owners creating one of the largest private-house renting platforms for tourists
	Visit Britain	Crowd-sourced user generated content through tourist Facebook check-ins to attractions in order to generate the Top UK 50 Places
Co-Production		
	Hotel Lugano Dante	Co-production by personalisation of the hotel stay, including mini-bar, pillows, newspapers, food and beverage through a customer-relationship platform
	Inamo Restaurant London	Co-production by personalisation of the dining experience including table ambience, order pace, and bills through the eTable technology
Co-Creation		
	Sol Melia's Sol Wave House	Co-creation through Twitter in the entire hotel through hashtags with employees, Twitter concierges and guests
	KLM	Co-creation through social media by facilitating a social seating in-flight programme

5 CONCLUSIONS AND STRATEGIC IMPLICATIONS

The advances in customer involvement and the field of technology have contributed to new opportunities to innovate co-creation processes in tourism more effectively. In this light, the chapter had the aim to explore innovation through co-creation and, more specifically, to develop an understanding of how ICTs can be used to facilitate innovative co-creation processes in tourism. To this end, the chapter has started with a

review of the rise of the consumer and the paradigm shift towards consumer empowerment, service dominant logic and co-creation. By recognising a multiplicity of existing processes and terminologies, the chapter has then assessed three dominant processes, including crowdsourcing, co-production and co-creation and accentuated their differences and similarities in the context of tourism. The next part has discussed the impact of technology as a facilitator of these processes, before developing a classification of technology-facilitated co-creation processes. The classification has contributed to the current understanding of co-creation by presenting distinct characteristics and mechanisms underlining ICTs-facilitated crowdsourcing, co-production and co-creation respectively. To complement the theoretical contribution with relevant practical implications, an overview of tourism best-practice cases was presented to highlight the potential of ICTs in tourism innovation practices.

This chapter draws several critical implications for tourism research and practice. Operating competitively in a fast-paced tourism industry first of all means recognising cutting-edge technological developments and being at the forefront of using them as means for innovation and strategic competitive advantage. With co-creation flourishing over the years to come, the industry needs to capture its full potential by taking co-creation to the next level (Neuhofer et al., 2012). Only by adopting the technological solutions of the coming years that drive ever more social and mobile interactions and participatory behaviour, tourism businesses will have a great opportunity to empower tourists more effectively throughout all stages of travel. Involving the consumer does not only mean co-creating more meaningful experiences and value but does also provide the company with insights in better understanding their consumers and their inherent needs and wants.

The key to this process is the adoption of a co-creation philosophy that puts the consumer first. If this mind-set is established, there will be new opportunities to create socially dense and personal experiences together. The main chance for tourism businesses is to identify original, unique and innovative co-creation processes. For these to occur, businesses need to first identify the goal of the consumer involvement and then facilitate consumers with the necessary resources and tools to become a part of the innovation process. This can range from generating ideas, asking for opinions, personalising to co-creating experiences with companies, stakeholder and consumer communities. The more consumers are involved in their co-production, design or creation of their experiences, the more positive evaluations will they develop, leading to increased perceived value, loyalty and recommendation in the long-term. Thus, in order to keep up with the pace of dynamically moving markets, the use of ICTs for co-creation processes needs to become a strategic objective in new service development and innovation in tourism. Constant assessment and re-appraisal of current practices are needed to overcome technological challenges, seize opportunities and facilitate innovation that allows co-creating experiences with contemporary consumers most effectively.

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Appendix 14.5: Book Chapter 2

Neuhofer, B. and Buhalis, D. 2014. Experience, co-creation and technology: Issues, challenges and trends for technology enhanced tourism experiences. In: McCabe, S. (ed.) *Handbook of Tourism Marketing*. London, Routledge, pp. 124-140.

Experience, Co-Creation and Technology: Issues, Challenges and Trends for Technology Enhanced Tourism Experiences

INTRODUCTION

Consumers are increasingly striving for experiences. As products and services have become interchangeable and replicated, the search for unique, compelling and memorable experiences in the context of tourism consumption has become a key notion. In tourism marketing, the concept of the experience economy has long provided a valuable vehicle to design, stage and deliver experiences to consumers and gain competitive advantage. In the past years, the advent of two major shifts to the field of marketing has challenged the current understanding of tourism experiences. The concept of the experience economy has evolved, as consumers have become more active and empowered in playing a part in co-creating their own experiences in quest for personal growth (Prahalad and Ramaswamy 2004).

In addition to the development of the notion of co-creation, a second major change has taken place. With the advances in the field of technology, tourism experiences are not only co-created but more than ever technology-mediated (Tussyadiah and Fesenmaier 2009). The proliferation of recent information and communication technologies (ICTs) has had a great influence on society and people's everyday lives and has implied new challenges for the creation of experiences. With the dynamics of empowered consumers adopting emerging technologies for travel, traditional roles and processes of experiences creation have changed. These recent developments have led to the discussion of a new paradigm in the field of marketing, moving from Experience 1.0 (The Experience Economy) to the Experience 2.0 (Co-Creation Experiences), towards a new era of experiences, namely Experience 3.0 Technology Enhanced Tourism Experiences. A rethinking in marketing to reflect upon possible potentials, issues, challenges and future trends of tourism experiences is needed.

In this light, this chapter has the aim, by drawing upon experience, co-creation and technology literature, to provide a discussion of the issues, challenges and trends for the creation of Technology Enhanced Tourism Experiences. The chapter is divided into three main sections. The first part reviews the theoretical development of tourism experiences in the field of marketing, by briefly covering its definitional basis, historical evolution and emergence of latest concepts. The evolution in the experience economy, from the staging of experiences for the consumer to co-creating experiences with the consumer is discussed subsequently. The second part reviews the dynamic technological advances, with particular emphasis on the mobile sector, and provides new insights into their role in enhancing the co-creation of tourism experiences. The section highlights a paradigm shift in marketing and introduces the concept of Technology Enhanced Tourism Experiences. It outlines how tourism organisations can exploit the full potential of the plethora of ICTs to enhance the tourism experience co-creation process

throughout all stages of the travel. The third and final part of this chapter discusses practical implications of this development for tourism marketing and provides an outlook on the future agenda for tourism marketing research.

TOURISM EXPERIENCES: THEORETICAL DEVELOPMENTS

Definitions of Tourism Experiences

What are Technology Enhanced Tourism Experiences? To answer this question for the purpose of this chapter, as the underlying concept, it is crucial to start with understanding the origins and the evolution of the notion of tourism experiences. Experience, firstly noted in the 1960s, has been defined as a vague and highly ambiguous term, which encompasses a specific occurrence that a person would have in everyday life. In the domain of marketing, the notion of experiences emerged with Holbrook and Hirschman (1982) seminal work postulating that consumer behaviour is not mere information processing but constitutes an active engagement in an emotional consumption experience. Succeeding this revolution, experiences have become a key concept in numerous fields including consumer behaviour, marketing and the experience economy. In the specific context of tourism, experiences have initially been portrayed as a quest for novelty and a reversal of everyday life (Cohen 1979). These early attempts were followed by a stream of literature focusing on capturing single elements, typologies, dimensions and chronological stages to develop a more holistic understanding of the tourism experience construct (Killion 1992, Otto and Ritchie 1996). Despite the numerous approaches having integrated perspectives from different social sciences, there is no consensus to date on a single definition of the tourism experience. Instead, it needs to be recognised in its full complexity with various influences, stages, elements, outcomes and types, all shaping and contributing to its current understanding (Jennings et al. 2009).

Experiences have always played a primary role in both tourism research and practice. The ongoing theoretical progress in the area underpins its importance and unabated relevance. In recent years, the study of experiences has received a revived interest, which is reflected in the amount of state-of-the-art literature discussing the concept (e.g. Cutler and Carmichael 2010, Morgan et al. 2010, Darmer and Sundbo 2008, Tung and Ritchie 2011, McCabe et al. 2012). With the tourism industry being subject to constant change, the nature of experiences is evolving alike, requiring new ways for understanding the design and the creation of successful experiences. For tourism marketing it is paramount to appraise the key developments forming the theoretical and practical understanding to date as well as to capture the latest changes, trends and challenges. For this purpose, the subsequent section provides a progress of *experience generations* that both encompasses a synthesis of the major theoretical milestones of the past and sheds light on some of the latest advances in the area.

Experience 1.0: The Experience Economy

In the course of the past decades, society has undergone several fundamental shifts. People have abandoned the idea of buying simple products and services and started to seek experiences by consuming products and services instead (Morgan et al. 2010). In the 1990s, this growing trend led to the emergence of a number of different key concepts, including the dream society (Jensen 1999), the entertainment economy (Wolf 1999) and the experience economy (Pine and Gilmore 1999). Pine and Gilmore (1999), in coining the renowned term experience economy, provided one of the most seminal contributions marking a new era in marketing. Their core proposition is the consumers'

pursuit of memorable experiences in the context of consumption and the progression of economic value. In a market characterised by globalisation, deregulation, advances in technologies and intensified competition, companies were forced to find new ways to differentiate their offers (Prahalad and Ramaswamy 2004).

The experience economy hit the zeitgeist of the time as a key instrument to yield differentiation, added value and competitive advantage. In practice, the principal idea for businesses was to no longer compete in terms of price but in terms of the distinctive value of the experience provided. For the years to follow, the experience economy has provided an unprecedented guide for strategic staging, managing and delivering experiences to consumers among a variety of contexts and industries. Particularly fostered by the adoption of emerging technologies, such as interactive games, online spaces and virtual reality, it was possible to meet the demand and create ever-more immersive consumer experiences (Pine and Gilmore 1998). Despite its perpetual popularity in both marketing theory and practice, the experience economy has however received critique due to its capitalist thinking (Boswijk et al. 2007) and the company's prominent role in initiating and producing experiences (Binkhorst et al. 2010).

Experience 2.0: Co-Creation Experiences

With an evolution in society, characterised by consumers being active, powerful and connected, thanks to social information and communication technologies, there has been a transformation in the traditional company-consumer power relationship (Ramaswamy 2009). Subsequently, the orchestrated design of experiences has been considered no longer suitable to reflect the needs, wants and roles of contemporary consumers. With technologies allowing for multiple stakeholders to be connected more than ever before, the consumer has assumed a much bigger role as an active prosumer of the experience. In recognising this change, Prahalad and Ramaswamy (2004) propose a balance between companies and consumers as equal partners in co-creating the experience. This milestone has advanced the notion of the experience economy and introduced its successor generation. Co-creation represents a new paradigm for marketing. In widely replacing the pre-existing service-dominant views it has marked the beginning of a novel understanding of *how* and *by whom* services and experiences are created. The consumer has become the central element in both the experience production and consumption process, which implied that the first point of interaction is no longer to be found at the end of the value chain. Rather, it is framed as a collective and collaborative process of interactions between individuals and companies. Co-creation manifests itself as a convergence of production and consumption and represents an encounter in which consumer experiences are co-created and unique value is extracted (Prahalad and Ramaswamy, 2004).

The notion of value creation *with* the consumer rather than *for* the consumer has been particularly advanced by Vargo and Lusch (2004) by introducing the concept of value-in-use in service dominant logic (S-D logic). Whilst historically value has always been co-produced, it was viewed as a give and get dichotomy of benefits and sacrifices (Zeithaml et al. 1988), neglecting the role of the consumer in the co-creation of value (Sandström et al. 2008). Value however is not inherently existent, but for value to emerge, the experience needs to be co-created by the consumer. In ascribing the consumer the role of a collaborator, this perspective highlights two main arguments suggesting that it a) involves the consumer's participation in the creation of the core offering itself and b) 'value can only be created with and determined by the user in the 'consumption' process and through use' (Vargo and Lusch 2006: 284). Accordingly, this argument links back to the earlier raised criticism of the experience economy, i.e.

that experiences cannot be simply designed and delivered. What can be created instead are the necessary prerequisites and a value proposition, as an intermediary connection of companies towards consumers generating their own value (Vargo et al. 2008). For marketing, the opportunities subsequently lie in recognising this fundamental shift and adapting the experience and value creation to these new assumptions. The locus of experience co-creation is to acknowledge the tourist as the central point embodying multiple roles as a) the consumer of the service and experience, b) the co-creator of the experience and value, c) the co-creator of the experience space and d) the extractor and judge of the value at the same time.

The key principle therefore is to recognise the individual tourist as the dynamic hub, around which companies, stakeholders and other consumers orbit. In advancing the theoretical argument, recent literature suggests a myriad of possibilities of interactions, as consumers not only create with companies but also among each other (Baron and Harris 2010, Baron and Warnaby 2011, Huang and Hsu 2010). Organisations thus need to nurture an environment that facilitates not only its interactions *with* consumers (B2C), but allows for interactions *among* consumers and consumer communities (C2C). Accordingly, the tourism industry has unprecedented opportunities to facilitate co-created experiences and value on multiple levels of engagement and spaces. As consumers are in a constant search for experiences, co-creation represents a unique source of added value, innovation and competitive advantage (Shaw et al. 2011). While it is still fairly novel, Neuhofer et al. (2012) however urge that the tourism industry needs to strategically innovate and identify new sources to add value to co-creation experiences by means of instrumentalising technologies. With a plethora of ICTs available, consumers are always connected, which unfolds new possibilities for tourists to proactively co-create experiences and value in every step of the consumption. The co-creation environment must therefore embrace the potential brought by emerging ICTs (van Limburg 2012). This chapter, in having reviewed the developments until the point of co-creation, now turns to introducing technologies as a strategic means for the creation of Technology Enhanced Tourism Experiences, marking a novel era for tourism marketing.

EXPERIENCE 3.0: TECHNOLOGY ENHANCED TOURISM EXPERIENCES – A NEW PARADIGM FOR TOURISM MARKETING

In recent years it has become evident that consumer empowerment and co-creation have been particularly fostered by one factor, namely technology. ICTs have caused a drastic impact by changing not only society and industries but by transforming the nature of service and experience provision. In light of this evolution, we need to understand how to exploit the full potential of ICTs, as an integral part for the creation of contemporary tourism experiences and value. The following section aims to shed light on this issue by conceptually integrating experience, co-creation and technology within the concept of Technology Enhanced Tourism Experiences. For this purpose, it assesses the most recent developments of ICTs within the tourism industry. While reviewing emerging technologies, such as the Web 2.0, social media and a range of social networking sites (*covered in Chapter XX of this book*), this chapter places particular emphasis on mobile technologies for the creation of tourism experiences.

It tackles the advancements of mobile services and the mobile tourist and its implications for tourism experiences, co-creation and value. In introducing the notion of Experiences 3.0: Technology Enhanced Tourism Experiences, the chapter discusses a paradigm shift in tourism marketing, the factors contributing towards this shift and offers a juxtaposition of the characteristics of Experiences 1.0/ 2.0/3.0 underlining this

evolution. To allow for a better practical understanding, the chapter takes a closer look at novel experience creation processes with respect to the individuals involved (*who*) and the travel stages comprised (*where/when*). The discussion is underlined by a range of best-practice examples demonstrating its current realisation and highlighting its potential for future experience creation.

ICTs impact on the tourism industry

In the 21st century, society has been undergoing a number of fundamental changes. One of the most far-reaching shifts regards the adoption of technologies in people's everyday lives. The proliferation of ICTs, such as computers and the Internet gave rise to the knowledge-based economy, characterised by new ways in which information has become available. The importance of information and communication is not only prevalent in society but across various industries, including tourism. As a dynamically developing sector, the tourism industry has always been in the forefront of technology (Sheldon 1997). With information being the so-called lifeblood of the travel industry (Sheldon 1997), technologies have induced an information revolution that has caused entire tourism structures to change.

In allowing for better access and transparency of information (Hall 2005), ICTs have fostered an increasing consumer independence to access information online (Buhalis and Licata 2002) and at the same time induced a decreasing importance of traditional travel distributions. Due to the intangible, heterogeneous and perishable nature (Buhalis and Jun 2011), information and communication tools have become essential for presentation and description of information, prices, reviews and opinions online. Despite allowing for information, ICTs have become instrumental in interacting and engaging with consumers more effectively. In particular, the emergence of social consumer-oriented technologies have revolutionised tourism. The Internet and its successive advances in the Web 2.0 have represented one of the most critical technological developments over the past years (Dwivedi et al. 2012, Hays et al. 2012, Xiang and Gretzel 2010) by turning the Internet into an immense space of networking and collaboration (Sigala 2009). A wide range of social media, such as networking sites, blogs or wikis, have enabled consumers to interact, collaborate and share content, opinions and experiences to an unprecedented scale. In addition to the Web 2.0, a further development has implied one of the most significant changes to the tourism, namely mobile technologies.

Mobile ICTs and mobile tourists

Mobility has been identified as one of the four mega trends next to globalisation, communication and virtuality, as identified by Egger and Buhalis (2008). The rapid technological development has led to a massive mobility in terms of the physical movement of products, services and people and at the same time encouraged the mobility and ubiquity of technological artifacts themselves (Gretzel and Jamal 2009). Society are characterised by a 'mobilities paradigm', reflected in the increasingly mobile nature of people, travel and tourism (Sheller and Urry 2006). People travel more often for work, study or leisure, rendering tourism a simple extension of the mobile everyday life. As a result, the advances in the mobile market are highly relevant to tourism, as one of the industries that can use the advantages of the mobile information medium most (Brown and Chalmer 2003).

Mobile devices function as 'transportable smart computers' that can be accessed almost unlimited (Wang et al. 2012) causing a transformation in travel. By being implemented

on the move (Schmidt-Belz et al. 2002), stationary access has been widely replaced and information has become accessible anywhere and anytime (Balasubramanian et al. 2002). This resulted in a gradual revolution of tourist behaviour in shifting from a simple 'sit and search' to a dynamic 'roam and receive' behaviour (Pihlström 2008). Moreover, the integration of technological prerequisites, including GPS, compass and maps, gave rise to numerous services, such as location based services (LBS) context based services (CBS) and augmented reality (AR).

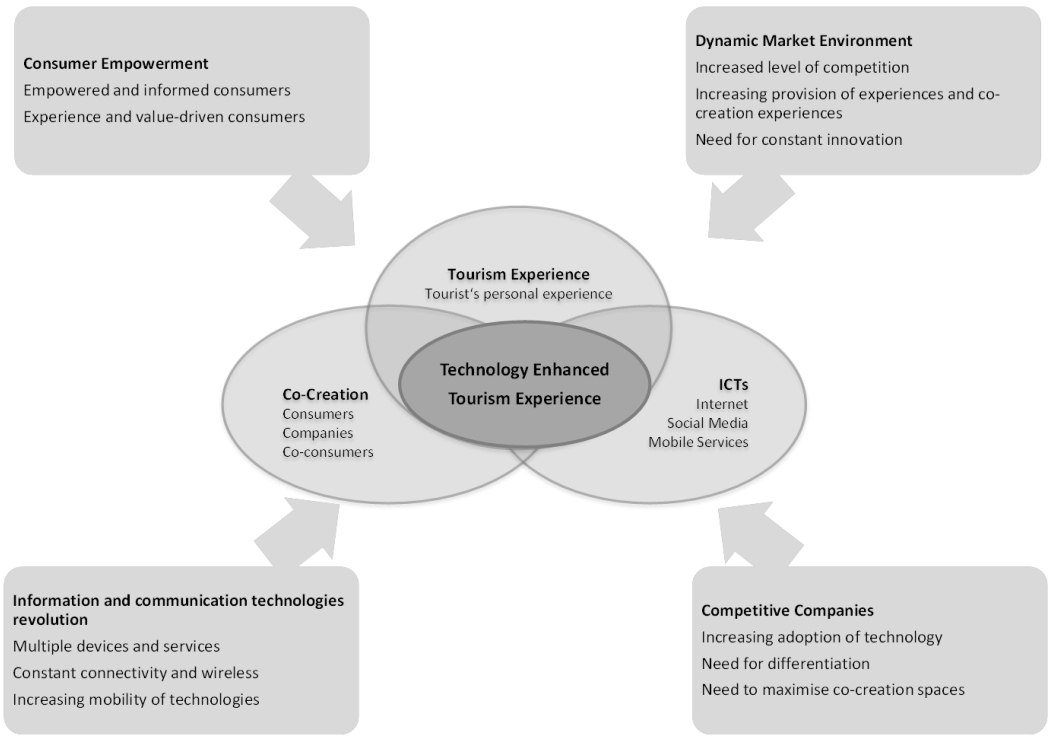
In allowing for geographical positioning and access to location and context relevant information, these services have become a key tool of the mobile 21st century and particularly the tourism industry (Egger and Jooss 2010). As tourists are connected to their mobile device, traditional tourism services, such as information, entertainment, shopping or navigation have become amplified, as tourism providers and consumers are able to dynamically connect, exchange and engage through the mobile device online (Green 2002). Thus, with a plethora of mobile services at the tourist's disposal which are accessible almost *anywhere* and *anytime*, it is now possible to connect with *anyone* at *any stage* of the travel, opening up new opportunities for multiplied levels of co-creation of experiences and value. Given the advancements of the Internet, the Web 2.0 and the mobile sector, ICTs represent the key instrument of change by transforming the way travel experiences are created. Due to their increasing mobility and ubiquitousness, ICTs are an essential part of the entire travel, as the mobile tourist is empowered to use ICTs to create participatory and personalised technology-enabled experiences. With these prospects in mind, this chapter now turns to introduce the latest experience generation, namely Technology Enhanced Tourism Experiences.

Paradigm Shift towards Technology Enhanced Tourism Experiences

To understand this new generation of experiences for tourism marketing, it is crucial to capture the most fundamental changes, whereby it is not technology on functional terms but rather its implementation into experiences which is of relevance. Synthesising the developments within society, tourism and the field of technology, it appears that four main factors have contributed towards the paradigm shift of Technology-Enhanced Tourism Experiences. These include consumer empowerment, a dynamic market environment, information and communication technologies revolution and competitive companies. Figure 1 below highlights presents a graphical overview highlighting the key components and influences which have been touched upon in this chapter so far.

Appendices

Figure 1. Paradigm Shift towards Technology Enhanced Tourism Experiences



In its core Figure 1 represents three major components conceptually framing Technology-Enhanced Tourism Experiences. First, it constitutes the tourist's personal subjective *experience* (Larsen 2007) at the moment of value creation (Andersson 2007) occurring before, during and after the travel (Aho 2001). The second component is *co-creation* describing the process that tourism experiences and value are conjointly created between the tourist, the provider and co-consumers involved in the particular context of consumption (Prahalad and Ramaswamy 2004). The third component represents *ICTs*, which in different manifestations, such as the Internet, social media or mobile services, facilitate the co-creation of enhanced tourism experiences and value (Neuhofer et al. 2012).

Surrounding the inner circle, four factors were critical in allowing for an emergence of Technology-Enhanced Tourism Experiences. *Consumer empowerment* is characterised by the shift from passive to active consumers driven by their search for more meaningful experiences. With a dynamic *market environment*, characterised by increased competition, need for constant innovation and creation of compelling experiences, businesses are faced with ever-more competitiveness. In a response to this market force, companies have become highly *competitive* in order to reduce commodification and differentiate themselves by creating more valuable experiences and maxisiming the potential of co-creation. In this respect, *ICTs* have been suggested as key instrument to facilitate and enrich this process. By exploiting its full, companies have taken advantage of the range of services available to engage with consumers, not only online in the pre/post stage of travel, but due to the mobility of devices, on the move along every step of the journey.

Having outlined the elements framing Technology-Enhanced Tourism Experiences, it is equally important to take a closer inspection at the differences that makes this type

distinct from previous experience generations. Table 1 presents the theoretical development of tourism experiences and offers an overview in juxtapositioning the advancements from Experience 1.0 (The Experience Economy), Experience 2.0 (Co-creation Experiences) to the latest paradigm of Experience 3.0 (Technology Enhanced Experiences). While prior experiences were characterised by company-focused approaches, we have now moved towards an active, participatory approach of experience creation. Facilitated by ICTs, experience have become multiplied in terms of consumer participation, engagement and spaces, resulting in a connected, rich and more personalised experience and value extraction.

Table 1.
Comparison Evolution of Experiences

Experience 1.0	**Experience 2.0**	**Experience 3.0**
Passive provision	Active co-creation	Holistic technology enhanced co-creation
Physical staging	Physical co-creation	Physical and virtual co-creation
Experience on-site	Experience on-site	Extended experience in the pre-travel, on-site and post-travel stage
Company staging	Company engaging and co-creating	Company co-creating and technology-enhancing
Standardised, mass produced experience	Customised co-creation experience	Rich, personalised, connected, co-constructed experience
One-way delivery (company to consumer)	Two-way engagement (company and consumer)	Multi-level engagement (Company, consumer and surrounding connected network of providers, co-consumers, and social networks)
Innovation by transforming services into experiences	Innovation by transforming experiences into co-creation experiences	Innovation by transforming co-creation experiences into rich technology-enhanced experiences

Elaborating on the notion that ICTs constitute an integral part of tourism experiences, a change of perspective in marketing is needed. Co-creation needs to be open for the potential inherent in technology. To take the lead in creating more compelling experiences, it is therefore not sufficient for tourism marketing and organisations to only allow for co-creation but it is paramount that they uncover the potential of ICTs for experience creation (Neuhofer et al. 2012). Innovation is one of the biggest decommoditisers to create something new, differentiated and valuable (Pine and Korn 2011). In this particular respect, this means to exploit one of most decisive resources of innovation, namely technology to generate Experience 3.0: Technology Enhanced Experiences offering a new point of departure for innovative experience creation. Only those making the shift to instrumentalise ICTs for enhanced co-creation will be able to increase their value proposition, reduce commodification and gain competitive

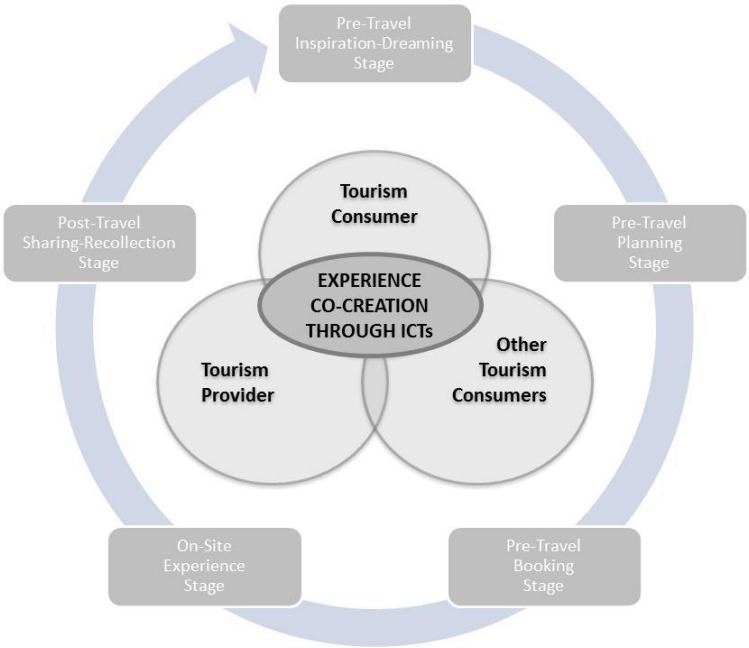
advantage. The future success of companies will therefore lie with those who are able to realise technology-enhanced tourism experiences.

Realising Technology Enhanced Tourism Experiences in Practice

To most effectively implement this concept in tourism practice, it is necessary to fully understand the processes involved in this endeavour on a practical level. For this purpose, this chapter continues by breaking down the experience creation process and taking a closer look at the single components involved. Figure 2 provides a graphical overview, representing the components involved in the dynamic multi-stage and multi-individual co-creation process of Technology Enhanced Tourism Experiences.

Figure 2.

Co-Creation Process: Technology Enhanced Tourism Experiences



This chapter now seeks to assess the following elements in detail, namely:

- *Individuals*: who is involved in the co-creation of technology enhanced experiences
- *Stages:* where/when are technology enhanced experiences created

Individuals: Tourists consumers, tourism providers and co-consumers

Technology-enhanced experiences imply new ways of how consumers interact with companies and consumer communities. ICTs have fostered a transformation towards inter-connected and co-creating prosumers in a technology enabled experience environment. Recent literature confirms that the range of ICTs available support co-creation experiences in a number of different ways (Gretzel and Jamal 2009, Tussyadiah and Fesenmaier 2007, Tussyadiah and Fesenmaier 2009). The Internet, for instance, provides a valuable platform for the interaction of suppliers and consumers. It represents a multi-purpose medium that a) gives consumers more control, b) empowers

them to establish closer relationships with the company and c) encourages them to actively co-create their experiences.

This active role of the tourist has been particularly fostered by the collective and collaborative space of Web 2.0 technologies. The Web 2.0 is one of the most relevant technological developments that reflect the paradigm shift towards Technology Enhanced Tourism Experiences. It enables consumers to become 'co-marketers, co-producers and co-designers of their service experiences by providing them a wide spectrum of value' (Sigala 2009: 1345). The plethora of social interaction tools in the Web 2.0, including blogs, videos, wikis, fora, chat rooms and podcasts, have encouraged individuals to generate content and share their experiences online at home or through mobile devices while being on the move and in turn co-create their experiences more than ever before (Ramaswamy 2009).

Due to the proliferation of the Internet, constant connectivity of mobile technologies, and engaging nature of social media tools, co-creation experiences between individuals are maximised. In fact, there is evidence that interactions between individuals have 'exploded on an unprecedented scale everywhere in the value creation system' (Ramaswamy 2009: 17).

This means that through ICTs, co-creation is no longer only occurring between companies and consumers (B2C) but increasingly among other consumers and the social network which enforces consumer-to-consumer (C2C) co-creation on all levels. As a result, with new forms of social technologies continuing to emerge over the next years, experience co-creation is expected to flourish even more. It will become crucial to tourism marketing to exploit the tools of the Web 2.0 to allow for more meaningful interrelations with tourists and among tourists by building platforms and spaces to interact, comment and share experiences.

Stages: Multiple stages of the travel process

By integrating ICTs, co-creation experiences are taken to a whole new level in terms of temporal and geographical dimensions of when/where experiences can be created. ICTs surround the tourist anywhere, at any time in any travel stage. This leads to unprecedented opportunities to co-create experiences everywhere along the value creation system, i.e., the whole customer journey. The tourism experience has been recognised as a multi-phase phenomenon in the past (Clawson and Knetch 1966, Craig-Smith and French 1994). However, ICTs enforce these dimensions by facilitating experience creation long before the actual service encounter, on-site and after the tourist's return to his/her home environment (Fotis et al. 2011, Huang et al. 2010, Tussyadiah and Fesenmaier 2009). Thereby, ICTs are adopted for information search, comparison, decision making, travel planning, booking, communication, and sharing of experiences. Depending on the specific task, a wide range of tools is used to facilitate and enhance the experience (Buhalis and Law 2008, Gretzel et al. 2006), including the Internet, virtual communities or Second Life (Binkhorst and Den Dekker 2009), social networking platforms, blogs or microblogging, such as Twitter (Wang and Fesenmaier 2004), virtual worlds or social networking sites (Shaw et al. 2011), Facebook, YouTube or Wikipedia (Ramaswamy 2009). Businesses across all sectors of the travel and tourism industry therefore need to capture their own peculiarities and resources and assess where they can best implement technology to facilitate experience co-creation, not only on-site but in all stages of the travel.

Pre-Travel Stage: Getting inspired, planning, decision-making, booking. With the emergence of the Internet, social media, and virtual worlds, tourists are now empowered to experience tourism destinations before the physical travel. By using ICTs, the pre-travel phase has a high potential for enhancing co-creation distinctively. Tourists start dreaming, seek for inspiration and information and look for opinions and advice from others (Xiang 2011). The range of social media tools available, such as Facebook, Twitter, YouTube, TripAdvisor and more recently Pinterest, assist tourists to experience potential hotels, destinations and attractions prior travelling. In these online environments, some destinations, such as Sweden, Thailand and Puerto Rico have already successfully demonstrated co-creation by encouraging users to upload and share images, stories and videos with the travel community (Buhalis and Wagner 2013). This underlines the importance to not only to provide tourist consumers with information, but actively connect and engage to enhance their pre-holiday experience by co-creating with them in the available spaces online (Huang et al. 2010). Moreover, virtual realities, such as Second Life, by offering an immersive computer-generated tourism environment, have particularly fostered interaction and co-creation experiences through avatars online (Guttentag 2010, Kohler et al. 2011).

On-Site Travel Stage: Experiencing the tourism destination. The on-site travel phase is the most intensive phase with the highest potential for the co-creation of experience and value (Neuhofer et al. 2012). In this phase, different technologies can enhance the experience while moving through the physical space. Mobile technologies play a key role (Egger and Jooss 2010), by allowing for information retrieval anywhere and at any time (Wang et al. 2012). Emerging mobile services, such as location based and context based services, gamification or augmented reality apps (Buhalis and Wagner 2013) all contribute to enhance the tourist's place experience on-site (Tussyadiah and Zach 2011). It allows them to access information, media, booking sites and recommendations, which are relevant to the tourist's current geographical location and context, including season, weather, time of the day, situation and preferences. Furthermore, the use of augmented reality applications enables tourists to overlay reality with virtual spatial information and points of interests to enhance the tourist's entire travel experience in the physical world (Yovcheva et al. 2013).

The role of ICTs during the holiday is thus to support tourists in the physical environment and stay connected in the online space at the same time. By being interconnected to social networking sites, such as Facebook or Twitter, tourists can share, comment and co-create with friends, peers, tourism providers, and other consumers while being immersed in the tourism destination (Tussyadiah and Fesenmaier 2009). This means that tourists no longer only co-create with their physical surrounding, e.g. destination, hotels, attractions or other tourists but are now empowered to co-create with their entire network in a virtual co-creation space (Neuhofer et al. 2012). Thus, tourism providers need to make use of technologies in order to fully exploit co-creation with the tourist both in the physical and virtual space.

Post-Travel Stage: Remembering, sharing, recollecting. Besides their integration in the pre- and during travel stage, ICTs play an important role after the tourist's return to the home environment. In the post-travel stage ICTs principally serve to engage, recollect, remember and share experiences with destinations, users worldwide and their social network alike (Fotis et al. 2011). For instance, tourists can post pictures on Facebook, share videos on YouTube or write reviews and recommendations on TripAdvisor, which provides major opportunities for destinations to engage, build trust and more long-lasting relationships (Buhalis and Wagner 2013).

It is evident that by integrating ICTs, tourism providers, tourists and other consumers are able to co-create experiences and value throughout all stages of travel, including the pre-travel inspiration, planning, booking stages, during the on-site destination stage and in the post-travel recollection stage. Mobile technologies particularly benefit tourists to be constantly connected and co-create experiences and value with a multiplicity of individuals and places. In this vein, Technology Enhanced Tourism Experiences can be considered a new paradigm for marketing that maximises levels of engagement and co-creation with multiple individuals in physical, online and virtual spaces throughout all stages of travel. In the field of tourism marketing, ICTs will be the decisive elements for differentiation, innovation and future competitiveness of experiences. In order for marketers to develop a better understanding of how to create this new type of experiences, insights can be gained by looking how these experiences are currently realised across the tourism industry. For this purpose, Table 2 provides an overview of a number of best-practice industry examples from which marketers could learn how to successfully create Technology Enhanced Tourism Experiences in practice.

Table 2.

Industry Examples Technology Enhanced Tourism Experiences

Industry Examples	**Technology Enhanced Tourism Experience**
Hospitality Experiences	
Inamo Restauran London	Enhanced dining experience through eTable technology
Sol Melia Hotels	Enhanced guest experience through social media person-to-person interaction between staff and guests
Destination Experiences	
Visit Britain	Enhanced co-creation and engagement; mobile, user-generated application Love UK;
Thailand	Enhanced pre-destination experience through websites featuring videos, images and user-generated stories
New Zealand	Enhanced pre-travel experience through interactive trip planner with integrated maps, price range and activities
Hong Kong	Enhanced destination navigation through augmented reality applications for more space information
Cruise Experience	
Royal Caribbean	Enhanced on-board experience through digital signage to get directions, restaurant options, events, guest service etc.
Norwegian	Enhanced cruise experience through Norwegian iConcierge app to make reservations and check activities and communicate with other smart phone users
Airline Experiences	
British Airways	Enhanced in-flight customer experience through mobile technology use for cabin crew
KLM	Enhanced co-creation through social media engagement; facilitate pre-travel C2C co-creation through social seating programme

In outlining these diverse use scenarios of organisations from a variety of industries, including the tourism, hospitality, cruise or aviation sector, it becomes evident that not one single but a whole spectrum of Technology Enhanced Tourism Experiences can be

created. Whether it is co-creation with consumers through social media engagement (Visit Britain), interactive travel planners and platforms (Thailand, New Zealand) or the facilitation of customer-to-customer co-creation (KLM), the potential use applications for ICTs are manifold. Whatever type of experience is created, the industry needs to follow the underlying principles, which are a) to put the tourist consumer and his/her needs first, b) allow for an active involvement in the co-creation process and c) understand, based on the particularities of the sector, how to implement ICTs to enhance this process best.

CONCLUSIONS AND OUTLOOK ON THE FUTURE

The developments of experiences, consumer co-creation and technologies have caused a significant impact on tourism marketing in offering both unprecedented opportunities and at the same times rising challenges for experience creation in the future. This chapter had the aim to critically reflect upon the advances up to date and discuss a paradigm shift towards the creation of Technology Enhanced Tourism Experiences. It has first provided a review of the theoretical developments of experiences and discussed that the biggest challenge, and at the same time, opportunity is to abandon dated company-led experience creation approaches and keep up with the current movement towards consumer empowerment and emergences in the field of technology. To do so, tourism marketing will need to adapt to a) the changing nature of experiences, b) new implications for co-creation, and c) the need to exploit the potential of technologies for the enhancement of experiences. To put the changed paradigm into practice, it is necessary for marketers to consider collaboration with consumers and use of ICTs as the key to a successful creation of innovative experiences, added value and competitive advantage.

Being on the forefront of technology in a dynamic tourism environment thus means to capture cutting-edge technologies and pioneer in using them as tools for innovation and strategic competitive advantage in the marketing and management of experiences. As the understanding and implementation of co-creation in tourism (Binkhorst and Den Dekker 2009), let alone the realisation of Technology Enhanced Tourism Experiences is still in its infancy (Neuhofer et al. 2012), there will be great potential in this area in the near future. With emerging technologies and the dynamics of the tourism industry, tourism experiences are equally exposed to constant change, which renders the evolution of tourism experiences far from completed. It will be an ongoing and transformational process with new opportunities for experiences unfolding over the coming years. With continuous innovations in the IT sector, we can foresee opportunities in social media engagement and the role of real time service delivery, location and context based services, augmented reality applications and social gaming. Thus, research is never-ending and continuous efforts in exploring new and reappraising the existing understanding of tourism experiences are needed. Subsequently, this chapter concludes by setting out an agenda for tourism practice and research alike to highlight the need to conceptually and practically advance knowledge of innovating and creating competitive experiences.

For tourism marketing and management, numerous practical implications become evident. It is necessary to constantly monitor current trends and emerging technologies in order to explore the potential of their implementation for the enhancement of tourism experiences. In doing so, it is paramount for marketers to create strategic innovations by using the latest technologies available to maximise co-creation, create added value with consumers and generate competitive advantage. By using social technologies, such as social media, interactive platforms or mobile applications, there is great potential to

intensify the levels of co-creation and value extraction and create fully enhanced experiences throughout multiple touch points and stages, including pre/during/post stage of travel. Future research on multiple levels is needed to advance our understanding of tourism experience creation. For instance, company-centric studies are required to investigate provider and stakeholder involvement in the facilitation and co-creation of successful technology enhanced experiences. To complement this perspective, studies focusing on the consumer are essential in better understanding the tourists' roles in, needs and perceptions regarding experiences. Research investigating value perspectives needs to be encouraged to understand how value propositions can be maximised through the use of ICTs. Moreover, research, in exploring these current issues and challenges, should exploit the potential of technology as a research instrument, by using online, virtual and mobile spaces and applying technology-led methods to develop a better understanding of Technology Enhanced Tourism Experiences. While these recommendations only provide a snapshot of the status-quo, many questions undoubtedly remain open and much more research is needed for understanding future developments in the creation of experiences in tourism marketing theory and practice.

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Appendix 14.6: Conference Paper 1

Neuhofer, B., Buhalis, D. and Ladkin, A. 2015. Technology as a catalyst of change: Enablers and barriers of the tourist experience and their consequences. In: Tussyadiah, I. and Inversini, A. (eds.), *Information and Communication Technologies in Tourism* 2015, Vienna: Springer Verlag, pp. 789-802.

Technology as a Catalyst of Change: Enablers and Barriers of the Tourist Experience and their Consequences

Abstract

Information and communication technologies (ICTs) have had a major impact on the way people experience travel. Tourism research and management have been increasingly interested in exploring the role of ICTs as a potential catalyst of change that enhances tourist experiences. While generic technology adoption barriers are known, there is little knowledge about the specific technological enablers and barriers that determine the potential enhancement of tourist experiences. This paper thus addresses a timely matter as it identifies the key enablers and barriers as well as their implied consequences that shape the enhancement of tourist experiences. Through an exploratory qualitative approach, this study contributes by developing a two-factor model of experience enablers and barriers. Theoretical implications are discussed and strategic implications for tourism management and policy are provided on what actions need to be taken to convert existing ICTs insufficiencies into potential experience enablers.

Keywords: Tourist experience; ICTs; enablers; barriers; experience management and policy;

1 INTRODUCTION

In recent years ICTs have caused a massive impact by changing not only consumer society and various industries, but also by transforming the nature of travel and tourist experiences. For businesses it has become a central endeavour to exploit the potential of technology and instrumentalise it for the creation of meaningful tourist experiences (McCabe, Sharples, & Foster, 2012; Wang, Park, & Fesenmaier, 2012). With the proliferation of ICTs, social platforms, mobile devices, the opportunities of supporting tourist activities, providing and exchanging information and solving need situations have become amplified. A large body of work has drawn attention to the impact, role and value of ICTs in the tourist experience (Kim & Tussyadiah, 2013; Neuhofer, Buhalis, & Ladkin, 2013; Tussyadiah, 2014). Most recently, studies have advanced knowledge about the adoption and role of smartphones in the tourist experience (Wang, Xiang, & Fesenmaier, 2014a) and the use of smartphones in relation to everyday life (Wang, Xiang, & Fesenmaier, 2014b). As a common tenet, studies recognise numerous benefits of ICTs, as to enrich communications, gather information, share, co-construct and augmented experiences (Tussyadiah & Fesenmaier, 2009; Wang et al., 2012; Yovcheva, Buhalis, & Gatzidis, 2013). What however appears to receive less attention are the existing ICTs insufficiencies that can provide potential barriers limiting the creation and enhancement of tourist experiences. Such barriers can include restrictions in telecommunication bandwidth, Internet accessibility, hardware and software functionality, equipment, usage and connection costs as well as privacy, security and legal concerns (Buhalis & Jun, 2011; Eriksson, 2014). Within technology adoption

literature, barriers to the adoption of mobile technologies have been widely discussed (Pagani, 2004; Pihlström, 2008). For instance, Eriksson (2014) investigated barriers to mobile travel services and identified entry and usage costs as the factors that significantly affect usage behaviour. While these studies have uncovered barriers of mobile technologies in tourism, an exploration of specific enablers and barriers within the tourist experience is however missing. This paper thus bridges the gap and identifies the technological *enablers* that drive and foster, and *barriers* that limit the creation of tourist experiences. It also reveals the consequences caused by barriers. The paper first reviews the recent advances of ICTs in tourism and the tourist experience. The exploratory qualitative in-depth enquiry is outlined, before revealing findings and presenting the main contribution to knowledge, the two-factor experience enabler and barrier model. Last, theoretical, managerial and wider policy implications are discussed.

2 THEORETICAL BACKGROUND

2.1 Technology as a Catalyst of Change in Tourism

In the 21st century society has undergone a number of fundamental changes. One of the most far-reaching transformations has been fostered by the proliferation of ICTs in everyday life and travel (Wang et al., 2014b). ICTs have long constituted a major driver for change that has altered operations, processes and structures of tourism organisations and become a central instrument for innovation (Buhalis & Law, 2008; Hjalager, 2010; Stamboulis & Skayannis, 2003). Beyond transforming the structural dimensions of tourism, ICTs have been crucial to foster an increasing independence of consumers (Buhalis & Jun, 2011), by empowering them to access and gather information, book as well as dynamically share and interact through social media online (Fotis, Buhalis, & Rossides, 2011; Sigala, 2012; Xiang, 2011; Xiang & Gretzel, 2010). The recent advances in the mobile sector have brought an additional shift towards the mobility of services, people and the mobility of technology (Gretzel & Jamal, 2009). This shift has fostered a change from static retrieval to dynamic access to information and services in the tourist experience on the move (Tussyadiah & Zach, 2011; Wang et al., 2012).

2.2 The Implementation of ICTs in the Tourist Experiences

Several studies have portrayed ICTs as central tools to connect and enable tourist experiences (Neuhofer, Buhalis, & Ladkin, 2012; Tussyadiah & Fesenmaier, 2009), promote increased social engagement and involve consumers to co-create experiences (McCabe et al., 2012; Sfandla & Björk, 2013; Sigala, 2012). Mobile technologies have been explored as key instruments amplifying these opportunities on the move (Wang et al., 2014a, 2014b). Recent work has underlined the value of smartphone applications to gather information, enrich and construct experiences (Wang et al., 2012) and the use of social networks to support and share on-trip experiences (Kim & Tussyadiah, 2013). Moreover, several studies have been leading the knowledge frontier in exploring how augmented reality applications (Yovcheva et al., 2013) and wearable computing devices through Google Glass (Tussyadiah, 2014) can augment the physical surroundings and enhance tourist experiences. Despite these opportunities, several underlying issues of new technologies in the effective delivery of tourist experiences have been recognised (Eriksson, 2014; Linaza et al., 2012). For instance, Yovcheva et al. (2013) highlight that the use of mobile applications can result in a positive or negative experience change, while Lamsfus, Xiang, Alzua-Sorzabal, and Martin (2013) report that context in smartphone applications continues to be a challenging task that is yet to be addressed. As technologies are developing fast, issues in terms of content, design, functionality and usability represent main concerns (Yovcheva et al., 2013). It is therefore critical to

capture and address existing issues that, at present, might hinder tourists' abilities to fully exploit the advantages of ICTs within the creation of their experiences.

3 METHODOLOGY

3.1 Data Collection

To identify the technological enablers, barriers and consequences of the tourist experience, an exploratory qualitative enquiry was employed by means of semi-structured in-depth interviews. The interviews were guided by an instrument that included a set of pre-defined questions, while allowing for the necessary flexibility to account for participant narratives individually. To extract the consumer perspective on the issue under investigation, a range of questions were asked, as outlined in Table 1. A purposive sampling approach was used, which represents an effective method when a specific set of pre-defined criteria for selecting participants is required (Bryman, 2008). Participants having used ICTs for tourist experiences had to be identified, as only technology users are able to report such experiences (Pihlström, 2008). Two criteria were defined accordingly, including a) technology-savvy consumers (daily social media users and smartphone owners) and b) ICTs use for travel within the last 12 months to ensure the recollection of experiences. To allow for a profound exploration of narratives, a total of 15 in-depth interviews were conducted in May 2013 in the UK. All interviews were voice-recorded and manually transcribed verbatim to guarantee a rigorous coding and analysis process (Rubin & Rubin, 2004). The interviews lasted an average of 1.5 hours, leading to a total of 20.96 hours of audio-recordings and 286 pages of qualitative transcription.

Table 1. Sample Questions Experience Enablers and Barriers

- What types of ICTs do you use in the three stages of travel for your experience?
- What are the kind activities and situations for which you adopt ICTs in your tourist experience?
- If any, what are the main advantages of using ICTs for your tourist experience?
- If any, what are the main disadvantages of ICTs for your tourist experience?
- Compared to tourist experiences without ICTs, can you describe how technology has positively changed/enhanced your experience?
- Besides ICTs improving your experience, have you experienced any cases of ICTs negatively affecting/diminishing your experience?

3.2 Data Analysis and Sample Profile

For the data analysis, Miles and Huberman (1994) approach of qualitative thematic analysis was adopted and supported by the analysis software QSR NVivo 10 for subsequent coding. A six-stage coding process was performed, encompassing a-priori framework coding (1), coding-on and hierarchy development (2), distilling, sorting and meta-coding coding (3), clustering and theme development (4), refining and validating themes (5) and theory building at last (6). By doing so, a rigorous coding procedure was followed, which allowed not only for reflexivity and prolonged engagement with the data, but also ensured a transparent and replicable approach to enhance the reliability of the research (Denzin & Lincoln, 1994). Following the assumptions embedded within a qualitative paradigm, the study does not make claims of generalisability to the wider population, but rather seeks for transferability to similar contexts of the study (Holloway & Brown, 2012). Table 2 presents the socio-demographic sample profile, which reflects a broad range of demographic factors for a balance of gender, age, education levels and nationalities.

Table 2. Socio-demographic sample profile

Nr.	Pseudonym	Gender	Nationality	Education	Age	Smartphone
1	Laura	Female	Dutch	A-Levels	20-29	Samsung
2	Jane	Female	German	Postgraduate	20-29	iPhone
3	Martha	Female	German	Undergraduate	20-29	iPod/iPhone
4	Veronica	Female	Chinese	Postgraduate	40-49	iPhone
5	Sam	Male	British	A-Levels	20-29	Samsung
6	Paul	Male	British	Postgraduate	60-69	iPhone
7	John	Male	Indonesian	Postgraduate	30-39	Blackberry
8	Sandra	Female	Greek	Postgraduate	20-39	HTC
9	Teresa	Female	Indonesian	Undergraduate	20-39	HTC
10	Andrew	Male	Pakistan	Postgraduate	30-39	Samsung
11	Dan	Male	Greek	Postgraduate	40-49	Blackberry
12	Aaron	Male	Italian	Postgraduate	30-39	iPhone
13	Steve	Male	Belarus	Postgraduate	30-39	Samsung
14	Rachel	Female	German	Postgraduate	20-29	Blackberry
15	Hanna	Female	Vietnamese	Postgraduate	30-39	iPhone

4 FINDINGS

In exploring the possibilities and boundaries of enhancing tourist experiences through ICTs, understanding the underlying technological enablers and barriers is critical. The findings of the study are divided into three main sections. First, the technological *enablers* are presented, highlighting the key features of ICTs, which, when provided, foster and enable tourists to enhance their tourist experiences. The second part turns to revealing the technological barriers that currently represent a major concern in hindering the enhancement of tourist experiences. The third part highlights the consequences of these barriers, before synthesising the findings and developing the main contribution of the study, a two-factor experience enabler and barrier model.

4.1 Technological Enablers of the Tourist Experience

The findings reveal three main enablers, which can be divided into (1) *software,* (2) *telecommunication and infrastructure* and (3) *usage and usability* enablers.

Software Enablers. This factor determines the functionalities of applications critical for experience facilitation. Tourists report the need for software to allow for accessing, gathering and managing a range of tourist-related information. Participants highlight that experiences significantly improve if applications allow for push information (automatically sent to the user without having to look for it) and the personalisable information (filtered based on pre-defined preferences), such as interests, activities and points of interests. The value of push information is that it not only leads to seemingly more effortless but also to unplanned, but personally meaningful experiences:

"NOW the information finds me…instead of you looking for the information the information is looking for you." (Dan); "Something that is interesting there and I didn't know that and I didn't get it from the map. Maybe for example if there is a drum shop, like I like music, and I can't get that from the map." (Sam)

With respect to content, tourists require a wide range of information based on their specific context and needs. A commonly mentioned enabler regards the functionality to access a variety of information in one place. Rather than using multiple devices, participants value gathering information from one device. Applications need to provide

consumer reviews, directions, in-depth and location-relevant information on sights or places, or push and pull information based on current needs. The findings also indicate intelligent learning as a key feature to enable hassle-free and pleasant experiences. Participants report that the learning of personal preferences and the recognition of consumption patterns are highly useful to ease travel. Tourists welcome relevant suggestions that are automatically generated based on their current location and context. Moreover participants underline the importance of speed and one-click availability. Often tourists encounter situations, in which they need to have fast access to information. Thereby, speedy task completion was noted as a crucial feature to avoid distractions in the experience and address instantaneous needs on the go. One participant recalls how such a functionality has enhanced her experience:

"I can open the application and do one click and I'm in my flight because through this application I'm already checked in so with one click I can find out about my flight whereas with my computer I need to first start, then I need to start the internet explorer and then I need to find the website, then I need to log in, so it is so much longer."(Martha)

Telecommunication and Infrastructure Enablers. The second factor regards the *telecommunication industry and infrastructure provision* as an essential prerequisite, that not only has a major impact on the potential enhancement, but most importantly, on the enablement of a range of tourist experiences. In fact, tourists report that the availability of 3G and 4G coverage, affordable and speedy Internet access, affordable roaming abroad and the anticipated elimination of roaming are key determinants that shape to what extent technology-enhanced experiences become possible. Moreover, the availability of Wi-Fi hotspots and free Wi-Fi provided by the tourism service providers (restaurants, bars, hotels, public transport), play a crucial role in shaping ICTs use, requiring Internet access, on the move. Only if these features are provided, tourists can undertake specific activities, such as connecting to networks, sharing experiences in real-time, getting directions and accessing information. One participant exemplifies the value of Wi-Fi and the implied ease of gathering information:

"For example if I'm in London and it is extremely good covered…so I jump from one bar to another to try to connect to the Cloud to try to find information." (Aaron)

Usage & Usability Enablers. The third experience enabler regards *usage, ease of use, usability and usefulness*, highlighted as critical for tourists to use ICTs during travel. Participants express the need for ease of access to information, the ease of connecting to and participating in social networks, the ease of use of applications and devices as well as the pleasure and joy of using them. Easy usability was thereby reported as a critical factor to allow tourists a speedy and logical task performance, without investing extensive time during travel to figure out how travel applications work. The usefulness of applications has additionally been reported as essential to positively enhance the tourist experience. In fact, if ICTs applications convey high usefulness, they change the tourist experience by replacing traditional offline resources.

"Technology is more convenient because I click, I type and I will get the information instantly. So this is still my first choice, but of course I can still ask the people, stranger A, stranger B or just to go to ask friends, you know call for example. But it will be a lots of trouble." (Veronica)

4.2 Technological Barriers to the Tourist Experience

Technological barriers can be divided into four main factors, including (1) *hardware*, (2) *software*, (3) *telecommunication and infrastructure* and (4) *usage difficulties*.

Hardware Barriers. This barrier describes the hardware issues that keep tourists from using devices during travel. The most dominant issues reported regard the availability of appropriate devices, the use of out-dated technology, battery deficiencies and battery-consuming travel applications. Moreover, the device and screen size has been noted as problematic on both, the lower (too small screens to read information) and the higher end (too large screens and devices to carry around during travel) of the spectrum. For tourists on the move, it has been reported as exhaustive to carry large and heavy smartphones, tablets together with cameras needed for travel. Participants thus emphasise the need for all-in-one devices with a range of functionalities to use during travel. Participants report that battery issues moreover limit their possibilities to use the applications for a long duration, which has been described as particularly problematic when exploring a destination for a whole day or going camping, in which cases tourists have to refrain from using applications to maintain battery life:

"I like the phone and the possibility because it is very light but the problem is that I don't like really typing on the screen." (Steve); "It's an older phone, which means it is slow… I can download apps but … then my phone won't last even for a day." (Laura)

Software Barriers. Software limitations represent a further key barrier factor that can significantly limit tourist experiences. Participants report that applications are often too slow, have incorrect and inconsistent functionalities or pose information and content problems. Narratives indicate that tourists need to find information when walking through unknown places or visiting a place for the first time. The accurate functionality of maps is thereby essential to get tourists from point A to B. Frequently applications however fail to do so, which causes tourists to abandon ICTs and go back to traditional resources (asking people, road signs, paper maps). Additionally, tourists desire to use applications to gather information, but are commonly confronted with content hurdles. These are the overrepresentation of supplier-produced information (rather than user content and local insights), the problematic display of information (confusing, illogical content structures) and exaggerated frequencies of push notifications transmitted to the user. These software issues represent a major reason for tourists to stop using ICTs and rely on traditional resources instead.

"An error and saying "oh no your location is actually not available". This is really distracting and then I shut down all the technology and go back to the roots." (Jane); "When you download a lot, sometimes it is so messy, so I also carry that book in case, like to find a list of restaurants." (Hannah)

Telecommunication and Infrastructure Barriers. Issues in the telecommunication infrastructure represent a third main barrier, which relates to the lack of Internet connection abroad (international travel), lack of network (rural contexts, camping) and limitations of infrastructure in developing countries (network coverage, Internet availability). Additionally, the common lack of free Wi-Fi provision by tourism service providers (destinations, public transport, airports, hotels) are considerably limiting the opportunities to connect, access real-time information and share experience online. Participants also point to the significant financial burden associated with the need to purchase mobile Internet packages, pay for roaming abroad or acquire Wi-Fi access, which further restricts the extent to which tourists use ICTs during travel. The following two narratives provide insights into such scenarios:

"There is the Eiffel Tower and then from the Louvre to Notre Dam, and then plan the route in the city. As there are roaming costs we didn't use it." (Jane); "I load it beforehand and then I just have to take it out. And I know where I have to go, so it is kind of just loading the map with the streets, in case I get lost." (Rachel)

Usage Barriers. The fourth barrier identified concerns general *usage difficulties* of ICTs during travel. These primarily relate to the inefficiency of applications, slow speed of the system and difficulty of use, which can be problematic for tourists if support is needed from their devices. Participants also report limited usefulness of travel applications, due to the lack of offline availability (critical when Internet is unavailable), range of functionalities and reliable navigation. Usage issues also arise through the extensive use of mobile devices during travel, which can become obtrusive in activities. The physical effort required using ICTs has also been frequently mentioned as a major interference with the experience of places. For instance, carrying around multiple devices whilst on the move and pointing with technology imply usage barriers that limit the pleasure of adopting ICTs for tourist experience creation, as the following narratives underline:

"There hasn't been something that I found that is EASY carry-able that I can take around with me to use." (Sam); "I mean with the mobile phone and you need to augment it. Holding in my hand, yeah that is annoying." (John)

Having identified four barriers, it appears that the creation of tourist experiences through ICTs is (still) characterised by major technological issues that have a significant effect on the extent to which ICTs can be effectively used for travel. The next section outlines the consequences caused by such experience barriers.

4.3 Barriers of the Tourist Experience and their Consequences

Four consequences were identified, which are (1) *emotional responses*, (2) *missed opportunities and limitations*, (3) *behavioural consequences* and (4) *monetary burden*.

Emotional responses. The findings reveal that technological issues cause tourists to experience several adverse feelings, such as anger, disappointment and dissatisfaction as well as feelings of uncertainty and agitation. Anger is reported as a common response, which is manifested not only in annoyance and frustration with technology itself, but also in feeling upset because of the additional problems ICTs cause rather than resolve. Participants also report disappointment due to ICTs issues, including sadness (not being able to complete a specific task), emptiness (when ICTs are unavailable) and regret (not having access to information that could have been useful). Moreover, tourists feel dissatisfaction when accepting the state of the technological limitations (not having Internet, not being able to connect) boredom (wanting but unable to use ICTs) and unfulfilled expectations (having expected to be able to use ICTs). Additionally, a high level of uncertainty is reported, including the feeling of being in a crisis, feeling lost and scared, when not having technology as a backup in need situation and withdrawal, when ICTs or Internet access are not available to use. Two participants provide narratives capturing this consequence:

"I was so upset when I was in China and I couldn't post any news because it was banned, IS banned, because it still is banned. I really want to 'I'm in China'."(John); "It's knowledge. The knowledge behind the history, diversity and the building of the city and the meaning of the city and the buildings. Yeah, so now we just don't know it, which is a pity I think." (Jane)

***Missed opportunities and limitations*.** The second consequence concerns the impacts ICTs cause on the tourist experience, primarily due to the lack of hardware availability and Internet connection. These include not being able to location-check-in online, share posts in real-time and being cut-off from conversations on social networking sites. The idea that ICTs limitations lead to potential missed opportunities constitutes one of the tourists' biggest concerns. Participants state that ICTs issues can cause missing chances

of random social encounters (Facebook/Foursquare location check-ins), knowledge about the surroundings (points of interests, small local hidden places), live offers and deals (real-time restaurants offers), and real time information (train/bus/flight delays and changes). The lack of ICTs thus not only implies limited opportunities for enhancement, but can effectively change the nature of experiences. One participant narrates a missed opportunity to meet people due to the lack of Wi-Fi.

"My friend was telling me that she was in the same restaurant but I was already at home. I had to check in at home because they told me that they don't give wifi to customers." (Martha)

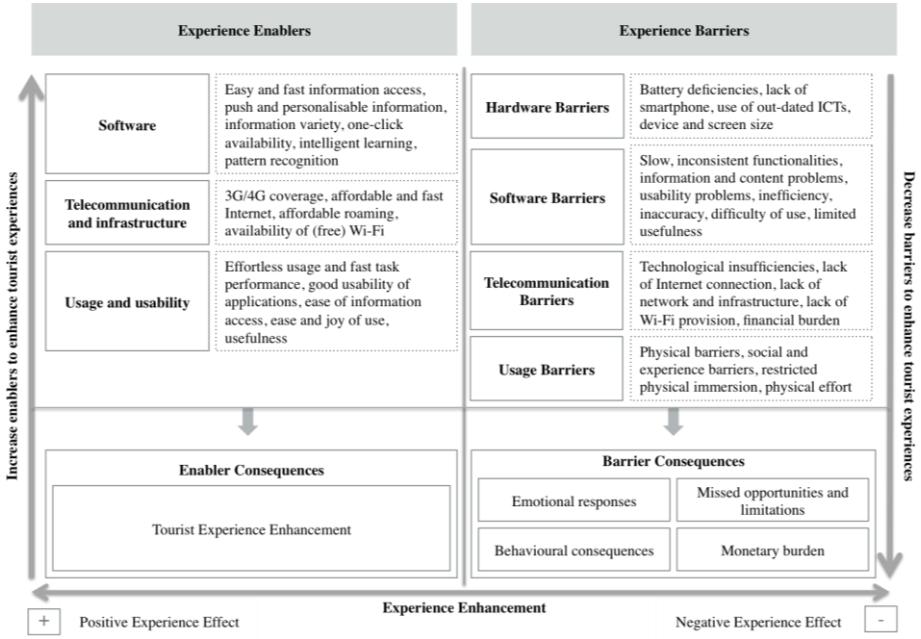
Behavioural consequences. With technological barriers present, tourists not only show emotional responses but several emerge behavioural consequences. One of these is that tourists decrease their ICTs usage or stop it altogether by shifting to traditional sources. Participants state that if ICTs are restricted or absent, several alternatives come into play. These can include the use of desktop sources (instead of mobile technologies), reliance on free Wi-Fi hotspots (instead of mobile Internet access) and traditional offline information sources, such as asking locals, using guidebooks and paper maps (instead of mobile applications). Another behavioural outcome is complaint behaviour and non-visitation. The lack of Internet or free Wi-Fi forces tourists not only to complain, but also to avoid booking or even go as far as changing existing reservations. These findings provide evidence that ICTs barriers do not only negatively impact on the tourist experience, but also induce major consequences for tourism service providers if they fail to meet the desired technological standards. Recurring participant comments, reflecting such actions, were the following:

"I'm a little bit concerned with roaming and how much it costs, so I will try to reduce how much I use data, so data-hungry applications, I wouldn't watch a video, unless I know that I'm in a wifi kind of situation." (Dan); "I would almost be inclined to swap hotels. I mean I feel that strongly about it. I think that it is now, a prerequisite really and I always check when I'm looking for a hotel, I always check that they have wifi, FREE wifi." (Paul)

Monetary burden. The final tangible consequence represents increased monetary implications caused by ICTs insufficiencies. These are primarily triggered by the lack of Internet availability provided, which results in roaming charges abroad, additional payments and the costly usage of alternative sources (buying a guidebook instead of using free travel applications). The frequently reported lack of Wi-Fi in public spaces, such as transport facilities, moreover causes an unavailability of real-time information access. This issue has been described as an indirect main cause for high costs as train or flight connections could be missed. Several participants highlight such issues:

"They don't have free wifi at the airport and you have to pay for that so I'm not using that, so I can't use it YET." (Martha); "The only thing that is stopping me from using the iPhone a lot more abroad is the roaming charge. So it is the cost of it." (Paul)

Figure 1. Tourist Experience Enabler-Barrier Model



Having examined the technological experience enablers, barriers and consequences, Figure 1 above provides a two-factor experience enabler-barrier model as the main theoretical contribution of this study. It conceptualises the identified enablers and barriers and their consequences on a horizontal and vertical axis. The horizontal axis depicts potential experience enhancement, ranging from a ***positive experience effect*** (left side) due to enablers to a ***negative experience effect*** (right side) due to barriers. The vertical axis represents the actions needed to ***increase experience enablers*** and ***decrease experience barriers*** for experience enhancement respectively.

5 CONCLUSIONS AND IMPLICATIONS

5.1 Theoretical Implications and Further Research

A large number of tourists use ICTs to ease travel, address need situations and enhance their overall experiences. The extent to which this process can occur is however primarily dependent on the possibilities that technology provides. While the impact of ICTs, as a catalyst of change, on the tourist experience has been widely acknowledged (Tussyadiah & Fesenmaier, 2009; Wang, Park, & Fesenmaier, 2012), an understanding of the specific technological enablers and barriers has remained scarce. On theoretical grounds, this study thus makes a contribution to tourist experience and ICTs literature (Neuhofer et al., 2012; Tussyadiah & Fesenmaier, 2009; Wang et al., 2014), in that it has a) identified the technological enablers, barriers and consequences of the tourist experience and b) conceptualised these in an experience-barrier model for c) a better understanding of how these factors relate to experience enhancement respectively. Several limitations need to be acknowledged of this qualitative research, which has been carried out in the frame of a bigger study. Beyond uncovering the consumer perspective, a wider scope would be needed to assess supplier and stakeholder views to allow for a more holistic picture of how ICTs enablers and barriers are interdependent and can be conjointly managed from a multi-stakeholder perspective. Due to the qualitative nature and purposive sampling approach of this research, further quantitative research could build on this study. It could not only verify the findings and the developed model on a larger scale, but also test the correlation between specific enablers, barrier and consequence factors.

5.2 Managerial and Policy Implications

The findings offer several strategic implications for tourism management and policy. To better support tourists in the creation of their experiences, the facilitation of technological resources is critical on multiple levels. One of the primary roles of tourism providers is to build the '*experience resource environment*' that offers the necessary technological prerequisites that tourists need during the pre/during/post travel process. While tourists might use their own devices, it is the service providers who need to ensure that the technological capacities, through accessible services, applications and infrastructure are provided. If these prerequisites are fulfilled, important implications can unfold, as consumers can more effectively connect, engage, share and enjoy their experiences. By being interconnected through a plethora of platforms and devices, tourists can co-create their experiences, not only with their private social networks but also with service providers at large.

From a wider policy perspective, resource facilitation will be a key issue to be addressed in services contexts over the years to come. Services providers are only partially able to facilitate tourist experiences, but most importantly rely on the cooperation with a wider policy framework to provide the necessary macro-environments, infrastructural resources and facilities to allow for technology facilitation. For instance, while hoteliers and restaurants might provide eConcierges, social platforms and mobile solutions on a micro service-encounter level, DMOs are needed to provide Internet and Wi-Fi in public places and transport on a wider regional level. On a wider governmental scale, decision makers can influence the necessary laws, policies and regulations that determine the availability of technology networks and infrastructure. In fact, with recent considerations to regulate data roaming prices in the European Union, the use of mobile applications for travel can be predicted to increase in coming years (Eriksson, 2014). Highlighting roaming issues, international phone and data charges and the consequent monetary burden as a core barrier of experience enhancement, one of the currently most critical issues regards the abolishment of these charges. This is a pressing concern that particularly affects international tourists who need and want to use their devices and applications abroad. It is thus the collaboration between multiple stakeholders that plays a decisive role in a stronger facilitation of experiences on a service, destination and wider policy level.

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Appendix 14.7: Conference Paper 2

Neuhofer, B., Buhalis, D. and Ladkin, A. 2014. Co-creation through technology: Dimensions of social connectedness. In: Xiang, Z. and Tussyadiah, I. (eds.), *Information and Communication Technologies in Tourism* 2014, Vienna: Springer Verlag, pp. 339-352.

Co-Creation through Technology: Dimensions of Social Connectedness

Abstract

With the increasing mobility and the emergence of social information and communication technologies, the tourist has turned into a connected consumer. In using the range of technologies available, tourists are now able to connect with their social circles to engage, share and co-create their tourist experiences online. While the significance of co-creation has been widely recognised, there is a major gap in understanding on what levels technology-facilitated co-creation can occur. This paper therefore aims to uncover the dimensions of social connectedness and develop a differentiated knowledge of how exactly tourists co-create through ICTs. The findings reveal six distinct dimensions that can be positioned on a social intensity continuum, ranging from disconnection to social co-living of the experience. In revealing social connectedness to everyday life and the home environment, this study highlights key implications for the existing theoretical understanding of tourist experience portrayed as a reversal from of the everyday life. Implications for further research and practice are discussed.

Keywords: Connected consumer; ICTs; co-creation; social connectedness; everyday life;

1 INTRODUCTION

Co-creation has become an important notion in tourism research and practice. The tourist as an empowered consumer has been recognised as the central element in this process determining the creation of experiences and value. In particular, with information and communication technologies (ICTs) as pervasive tools accompanying the increasingly mobile tourist consumer anywhere and anytime (Green, 2002), the tourist can now co-create richer, personal and more meaningful experiences (Gretzel & Jamal, 2009; Ramaswamy & Gouillart, 2008). As a result, with the proliferation of mobile devices and social media (Fotis, Buhalis, & Rossides, 2011; Xiang & Gretzel, 2010), the potential for technology supporting co-creation has reached a new extent. However, while much attention has been paid to understanding co-creation in the business context (Ramaswamy & Gouillart, 2008), little emphasis has been placed on understanding the social co-creation processes that occur outside of the company domain, when tourist consumers connect, engage and share with their social circles through technology. Despite acknowledging the high potential of technology for maximising social co-creation (Neuhofer, Buhalis, & Ladkin, 2012), recent studies lack to provide a clear understanding of how exactly the contemporary connected consumer seeks to co-create tourist experiences. Given this two-fold gap in knowledge, this study adopts a consumer-centric lens to explore technology-facilitated co-creation processes to identify dimensions of social connectedness. In developing these dimensions, this study contributes with differentiated knowledge of the extents to which consumers co-create through ICTs. To this end, the paper first discusses the theoretical foundations of

consumer-centrism and co-creation theories as well as the impact of social and mobile ICTs on how the socially connected consumer co-creates. Second, the methodological approach by means of a qualitative in-depth enquiry is presented. Third, the findings are discussed revealing six social dimensions of social connectedness, which are graphically depicted in a new model. Finally, conclusions on the study's theoretical contributions are drawn, further research is suggested and practical implications for management are highlighted.

2 THEORETICAL BACKGROUND

2.1 Consumer-centrism and Co-creation

With an evolution in society, characterised by consumers becoming more active, powerful and involved, there has been a transformation in services marketing in the way the traditional company-consumer power relationship is formed (Ramaswamy, 2009). The proliferation of ICTs has been one of the critical forces for the advancement of society and the growth of the empowered consumer. In facilitating access to information, transparency, processes and activities, ICTs have enforced an unprecedented shift in companies, consumers, employees, stakeholders and other consumers connecting and engaging with each other (Ramaswamy, 2009). By replacing the predominant goods- and service-dominant assumptions of the recent decades, co-creation has introduced new ways of *how* and *by whom* experiences and value are created. Central to this premise is that the consumer now is the main actor in both production and consumption (Ritzer & Jurgenson, 2010).

Subsequently, co-creation, defined as a dynamic, collective and collaborative process and a joint value creation between the company and the consumer (Prahalad & Ramaswamy, 2004) has thus introduced a new paradigm for experience creation. This advancement has been recognised in numerous emerging theoretical streams, including the notions of co-creation (Ramaswamy, 2009), co-production (Chathoth, Altinay, Harrington, Okumus, & Chan, 2013) or the service-dominant logic (Vargo & Lusch, 2004), which contribute to the current understanding of how contemporary experiences are created and constructed. More recently, scholars have introduced the customer-dominant logic as a new perspective recognising a shift from value creation in the business domain towards value creation within social experiences of the individual consumer (Heinonen, Strandvik, & Voima, 2013). This paradigm acknowledges C2C co-creation as a key source of value creation, as consumers create experiences with each other. In summarising these notions, Helkkula, Kelleher, and Pihlström (2012) state that co-creation can encompass a multitude and diversity of social dimensions in a range of social contexts. For instance, individuals can engage with businesses, consumer communities or personal networks alike to co-create socially intense and meaningful experiences (Arnould, Price, & Malshe, 2006).

2.2 Social and mobile ICTs

In recent years, ICTs have been one of the main forces driving consumer empowerment and enabling new multiple facets of co-creation (Neuhofer et al., 2012). In particular, the Internet and the subsequent advances of the Web 2.0 have induced one of the most critical technological and social developments over the past years (Fotis et al., 2011; Xiang & Gretzel, 2010). This change has turned the Internet into an immense platform of interaction opening new levels of engagement and collaboration (Sigala, 2009). The plethora of interaction tools, including blogs, videos or social networking sites have encouraged individuals to participate, connect and engage and in turn co-create their experiences online (Ramaswamy & Gouillart, 2008). In addition to the rapid social

technological developments, there has been a massive increase in mobility (Egger & Buhalis, 2008), which has not only shaped the physical movement of people, products and services but has caused a mobility of technology itself at the same time (Gretzel & Jamal, 2009). Due to their ubiquity, mobile devices allow tourists to connect, access and retrieve information on the move anywhere and anytime (Green, 2002; Wang, Park, & Fesenmaier, 2012). This combination of social and mobile innovations in tourism has led to new ways of how tourists can potentially connect, interact and co-create with companies and each other.

2.3 The Socially Connected Tourist and Co-Creation

With the proliferation of ICTs, the potential for experiences to be co-created has 'exploded on an unprecedented scale everywhere in the value creation system' (Ramaswamy, 2009, p.17). This means that through ICTs, co-creation is no longer restricted to companies and consumers (B2C) but is enabled among consumers and social networks (C2C) on all levels. In fact, with consumers using ICTs to engage with their networks, there is evidence that co-creation increasingly takes place in the consumer domain (Grönroos, 2008). In this vein, recent literature confirms that the range of ICTs available can facilitate traditional co-creation in a number of different ways (Tussyadiah & Fesenmaier, 2009; Wang et al., 2012). One of the possible applications of ICTs it to allow tourists to experience the physical tourist environment and stay connected in the online space at the same time. By being *interconnected* to social networking sites, such as Facebook or Twitter, tourists can share, comment and co-create with friends, peers, tourism providers, and other consumers while being immersed in the tourism destination (Tussyadiah & Fesenmaier, 2009). Tourists seek to *engage* with their social networks to support experiences (Kim & Tussyadiah, 2013) and *exchange* information, updates and opinions (Neuhofer et al., 2012) as well as *maintain social relations* and sharing experiences with each other (Wang, Yu, & Fesenmaier, 2002). It is evident that the notion of ICTs supporting experience co-creation is widely discussed. However, while many recent studies have focused on B2C perspectives on how companies facilitate co-creation through ICTs in tourism destinations and hospitality settings (Neuhofer et al., 2012; Neuhofer, Buhalis, & Ladkin, 2013), there is a gap in understanding from a consumer perspective, on how exactly the connected tourist seeks to use social and mobile technologies to co-create the tourist experience. Moreover, while examples of co-creation have been mentioned in literature, a clear differentiation of the distinct dimensions in which technology-facilitated co-creation can occur is missing. It is with this rationale in mind, that this study aims to address these gaps and uncover the underlying dimensions explaining how consumers use ICTs to connect and co-create their experiences when travelling.

3 METHODOLOGY

To address the aim of the study, a qualitative enquiry was adopted as a particularly useful method to capture the the subjective experiences that occurs within the individual human being (Larsen, 2007). For this purpose, qualitative semi-structured in-depth interviews were selected as the most suitable method to cover predefined queries whilst maintaining the necessary flexibility for participants to narrate their experiences. The interview instrument was established based on the literature, refined through pilot-testing and continuously adapted through an iterative interview process to allow for emerging aspects to be incorporated. The sampling procedure followed a purposive sampling technique, as a common method in qualitative research when participants need to fulfil a set of prerequisites (Bryman, 2008). In order to collect rich accounts and descriptions of technology-facilitated co-creation, participants who have been involved

in the required situation need to be sought (Robson, 1993). This means that highly technology-savvy users, as opposed to non-technology users, were critical for this research process. Accordingly, consumers meeting the following criteria had to be identified: a) technology-savvy consumers (owners of smart phones and daily use of smartphone and social media), b) prior experience of using ICTs for travel activities and c) the use of ICTs for travel within the last 12 months to ensure the recollection of their experiences. Due to the need to recruit individuals fulfilling all these requirements, the geographical location was secondary. Rather it was essential to find participants meeting the criteria, for which purpose locations with a potentially high concentration of technology-savvy users, such as a university environment, were used for participant recruitment. This process resulted in a total of 15 semi-structured in-depth interviews that were conducted in May 2013 in a seaside-town in the UK, with each interview lasting between 50 minutes and 2 hours and 20 minutes, with an average interview length of 1 hour and 24 minutes.

All interviews were voice-recorded and subsequently manually transcribed verbatim by the researcher in order to allow for a rigorous coding and analysis process (Rubin & Rubin, 2004). Following Miles and Huberman (1994) principles of qualitative thematic analysis and guided by the research questions of the study, the data was coded through an exploratory multi-stage coding process, consisting of inductive brush coding of initial codes, coding-on, refining codes towards the development of the final themes and dimensions of the study. For this process, the computer software QSR NVivo 10 was used to transcribe, store, organise and manage the wealth of data. While in the qualitative enquiry, criteria, such as reliability and generalisability play a minor role (Creswell, 2003), it is critical to consider reflexivity, contextualisation, prolonged engagement, thick description, audit trail, member checks and triangulation (Holloway & Brown, 2012). By allowing for all these factors this study ensured to obtain thick descriptions and narratives, member checks with participants, as well as inter-coder reliability by independent coding validation of excerpts of the transcripts as well as a transparent and rigorous research process through an audit trail documenting the entire study (Patton, 2002). As this research was of qualitative nature, it does not seek to make claims of generalisability beyond the specific context to the wider population but rather seeks for theoretical generalisation of the concepts presented (Holloway & Brown, 2012). Table 1 below outlines the socio-demographic profile of the sample. While the sampling procedure was purposive based on inclusion criteria, participants were selected to represent a diverse mix and balance of gender, age groups, education levels and nationalities.

Appendices

Table 1. Socio-demographic profile sample

Nr.	Pseudonym	Gender	Nationality	Education	Age	Smartphone
1	Laura	Female	Dutch	A-Levels	20	Samsung Galaxy
2	Jane	Female	German	MA	29	iPhone
3	Martha	Female	German	BA	24	iPod
4	Veronica	Female	Chinese	MSc	40	iPhone
5	Sam	Male	British	A-Levels	23	Samsung Galaxy
6	Paul	Male	British	MSc	62	iPhone
7	John	Male	Indonesian	MSc	34	Blackberry
8	Sandra	Female	Greek	MSc	27	HTC
9	Teresa	Female	Indonesian	BA	23	HTC
10	Andrew	Male	Pakistan	MSc	30	Samsung
11	Dan	Male	Greek	PhD	45	Blackberry
12	Aaron	Male	Italian	PhD	32	iPhone
13	Steve	Male	Belarus	PhD	32	Samsung Galaxy
14	Rachel	Female	German	MSc	24	Blackberry
15	Hanna	Female	Vietnamese	MSc	30	iPhone

4 FINDINGS

The findings of the consumer-centric in-depth study reveal that co-creation through ICTs occurs on a number of distinct levels. This study contributes by developing six main dimensions of social connectedness, which can be depicted through two polar continuums ranging from high to low involvement and from solitary to socially connected. In positioning the findings on this two-fold continuum, the following six polar dimensions could be developed: 1) Social Connectedness vs. Social Disconnectedness, 2) Social Intercommunication vs. Social Interaction and 3) Social Co-Participation vs. Social Co-Living, which are portrayed in Figure 1 below. Next, all six dimensions are introduced, underpinned by quotes and discussed in detail.

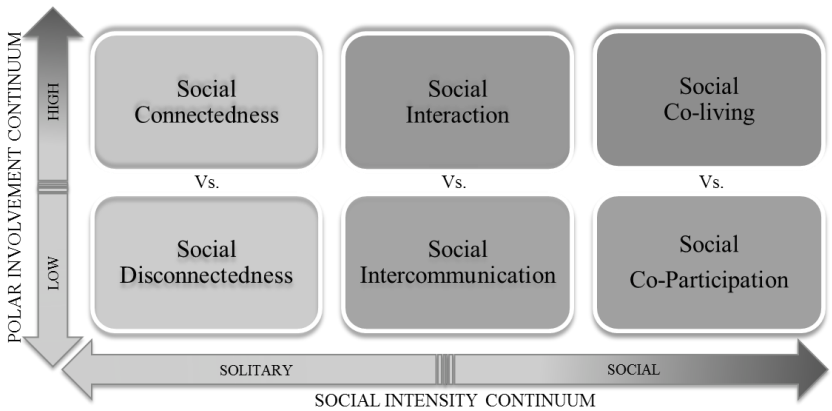

Fig. 1. Dimensions of Social Connectedness

1) Social Connectedness vs. Social Disconnectedness

Participants of the study report connectedness as a crucial part of their tourist experiences when being physically distant from home. Being connected through a variety of mobile devices, such as smartphones and tablets, tourists seek to maintain a link to their everyday life and their mundane routines. While tourists want to fully immerse themselves into the experience at the destination, social connectedness with

the home environment permits them to remain in contact with their social network not only for being updated, but also to avoid feeling spatially and temporarily isolated from their everyday lives. Many participants report the importance of being able to stay in touch with family, friends and also the work community:

> *"While travelling, call back the family and I also still use it as normal, like answer the email and update the work. Because in the past if you don't have the smart phone, you are stuck when you were travelling (...) So like this, when I travel in another country, I work and update like normal, and people don't feel like 'oh she is on holiday or she is on leave I have to wait another week to get the answer'." (Hanna)*

Social connectedness provides tourists a sense of attachment to home. Participants state that while they are physically away, mentally they have the feeling that they are still present there. Social connectedness demonstrates to be crucial for tourists to maintain and their social relationships and co-create their experiences. It seems to provide a sense of security and comfort, especially in situations when social relations on-site, e.g. with other tourists, are scarce. The possibility of connection with the own network, seems to partially replace the need for physical encounters with strangers, which indicates a shift of interactions to the familiar online social space.

> *"If you don't and can't interact with the people around you, because you might not know them, then it is nice to have a conversation or have this kind of sense that other people are still around you, even though it is kind of virtual, it gives you kind of a security, and then you are more willing to share the experience." (Rachel)*

In contrast to the desire for consistent social connectedness and the blurring of everyday life and the tourist experience through ICTs, the findings also indicate a polar view, suggesting an equal need for tourists' disconnectedness. Participants emphasise that the state of being connected to and co-creating with the social network often represents an inhibitor of switching off, preventing escapism from home and enjoying the 'real experience'. Due to the convergence of everyday life with travel, participants report an interference of their travel experience:

> *"Because if I connect so much it is not kind of travelling anymore, you are, I don't know, I just really like I want to get off the daily life, so I seek the reality, because if you stick so much with technology you don't really enjoy the place you live." (Hanna)*
>
> *"I think that somebody who uses technology that much to that extent, cannot actually enjoy that places that much, because you are so caught up in sharing it with other people rather than enjoying it yourself that much." (Rachel)*

The findings suggest that ICTs can be key tools in that they enable tourists to maintain social connections and allow for co-creation processes to occur. In contrast, while tourists desire connecting with everyday life, the polar view suggests the need for escapism from home, living the 'real experience' and maintaining co-creation with individuals, such as tourists or tourism providers, in the physical surroundings.

2) Social Intercommunication vs. Social Interaction

In case social connectedness with the online network is established, the findings suggest a further differentiation of two co-creation processes. Depending on the intensity of the encounter, there appears to be a continuum from social intercommunication and to social interaction. While terminologically often coined as interaction, participants point out that social media facilitated interactions frequently lack a deeper dialogue. With co-

creation aiming at creating interactions that are meaningful to the individual, interactions through social networking seem to lack in depth. One participant exemplifies this frequently mentioned perception.

> *"The deep a dialogue can be is 'are you in London, amazing, have you been there' 'no I'm not going there' 'ok fine go there next time' because the rest can be, 'I like it, wow, fantastic, where are you'. I mean the question is, is that real interaction? (…)*
> *A collection of feedback and there is no possibility of creating a third meaning. And when I post pictures of things when I share things about my travel experience the best comment I have "very nice" but we are not creating a meaning." (Aaron)*

The question therefore is what makes a technology-facilitated interaction and experience co-creation processes meaningful. While there is a two-way interaction stream of one person uploading and sharing a picture that triggers the response of another person to reply (e.g. through Facebook, Twitter, Instagram), participants state that this does not account for a full interaction or replace meaningful exchanges and dialogues as they occur in the real environment. Accordingly, there is need to draw a line between two forms of social encounters, namely *social intercommunication*, as a brief and light form of contact and messaging and *social interaction*, as a much deeper form of dialogue in which two parties exchange and create a meaning. *"I think interaction should create a meaning, I have a position, you have a position and we discuss about it and then there is a third position coming up which is blended." (Aaron)*

On the other end of the continuum, social interactions are often manifested as a prolonged dialogue that has been triggered by an experience shared for online. One participant reports for instance reports that sharing pictures has led to meaningful discussions on a mutual subject which added socially constructed value to the actual physical tourist experience.

> *"It is slightly overall experience changing just because I can share it a little bit and then we just talk about it to say, my friend "oh I can't believe you had that" "yes" and "I have been to your house and it was nothing like that" or something like that". (Sam)*

In summary, technology-facilitated social interactions can occur to different extents. While technology allows for an ease of communication, it partially occurs on a superficial level with short messages or comments being exchanged. To render co-creation more engaging, there is need for deeper interactions online that allow for proper discussions, outcomes and meanings to be exchanged.

3) Social Co-Participation vs. Social Co-Living

In increasing the intensity of co-creating tourist experiences, the findings indicate that technology allows tourist consumers to not only connect and interact but allows for immersive form of co-creation in which the network can become part of the experience itself. To reflect this new phenomenon which has not been recognised in the literature so far, the new terms social co-participation and social co-living have been coined. These reflect the new process of co-creation through technology, in which the individuals in the connected social network become virtual co-participants of the tourist's lived tourist experience. One participants describes the notion of intense co-creation through social participation, as a sensation of others '*being there with you'* during travels. Sharing is a central premise to the social experience, and by sharing the own experience, technology is a key facilitator for other people to participate in the experience at the very moment of its occurrence. While traditionally experiences were primarily shared post-travel upon the return home, technology allows people to co-

create and become virtual travel companions of the experience in real time. One participant reports:

> *"Just the feeling to have the other people participating in your journey even though they are not there but to share your experience with them because you can't share it with no one else because no one else is there. I mean you can make friends on your journey but then you share it with your virtual friends instead of sharing it with a person who is not there". (Jane)*

Additionally, participants highlight the example of people from the social network who socially co-construct the experience online.

> *"Yes I just want to make sure they find those really nice places, that they might have not gone to because that might have not been their choice of things to do." (Rachel)*
> *"I don't even consider to try that food during my planning, and because my friend told me that I have to try this food or this drink, it inspires you 'ok maybe I can try things that they recommend me' so it gives me information, so it is two ways." (Teresa)*

Moreover, in allowing the social network to become real participants of the experience, the online shared experience can become real to an extent that people are not only participating but essentially co-living the travel moment. This notion can be defined as 'co-living', allowing connected people to live the experience through the tourist's eyes:

> *"Some others just travel through my eyes, so they have never had the chance to go to.*
> *It is tele-presence, it is like going to the movies and watch a film about Bollywood and you feel that you are in India". (Dan)*

In summary, the findings indicate that co-creation through ICTs can be taken to a socially intense level that makes it possible to virtually co-live the tourist experience. When sharing experiences, the connected tourist can allow people to communicate, interact, participate, re-construct experiences as well as lend people virtual eyes to co-live tourist moments from the distance in the home environment.

5 DISCUSSION

This study aimed to explore co-creation processes through technology from a consumer perspective to identify dimensions of social connectedness. Beyond recognising the potential of co-creation, this study makes a contribution in that it empirically explored and uncovered a distinctiveness of technology-facilitated social co-creation processes taking place. It has revealed six overall dimensions of social connectedness. Figure 1 above demonstrates that these dimensions, varying in intensity, can be placed on a vertical polar continuum in terms of low and high involvement, and on a horizontal continuum ranging from solitary disconnectedness to a highly connected and socially intense state. Building on the principles of co-creation, this study provided a consumer-centric lens of co-creation in a technology-facilitated context. In revealing these distinct dimensions, this paper makes a theoretical contribution to the existing co-creation discourse in a number of ways. While the existing literature has argued that ICTs facilitates co-creation (Ramaswamy & Gouillart, 2008), this study contributes by revealing that co-creation is *not a single process* but can occur on *multiple levels and intensities*. In that it proposes six distinct dimensions of social connectedness, this study also contributes in putting forward new knowledge suggesting that it is not sufficient to use the popular term co-creation *per se*, but rather recognise its nuances and understand the different ways in which tourist co-create through technology. In that it looks at co-

creation processes from an inherently consumer-centric perspective, this study goes beyond B2C co-creation, and reveals how tourists co-create within their own social circles.

In line with recent work (Tussyadiah & Fesenmaier, 2009; Wang et al., 2012; Wang, Park, & Fesenmaier, 2013) this study has confirmed that ICTs can constitute a key instrument to facilitate richer and more socially intense experiences. Particularly mobile technologies benefit tourists to be constantly connected and co-create experiences and value with multiple individuals. As more social and mobile ICTs are at the disposal of the contemporary consumer, social connectedness can be potentially facilitated as the tourist connects, communicates, interacts, co-participates and co-lives experiences together with the social network online. Through co-creation with the social network, technologies support tourist consumers not only in the physical destination (Neuhofer et al., 2012), but allow them to stay connected and in touch with their everyday environment at the same time. These findings suggest a major contradiction to the long tradition in tourism literature suggesting the escapism from the routines of everyday life as one of the key motivational triggers for travel (Cohen, 1979). While literature substantiates a clear boundary between travel and the everyday life, this study suggests that these boundaries dissolve, as tourists increasingly connect and co-create with their network and home environment online.

6 CONCLUSIONS AND IMPLICATIONS

The power of the Web 2.0 and the increasing mobility of technologies have led to the emergence of a connected social and mobile consumer who is able to co-create tourist experience to a new extent. In addressing the gaps in the existing literature, this study had the aim to explore technology-facilitated co-creation and develop a differentiated understanding of co-creation processes by identifying six distinct dimensions of social connectedness. While human social encounters with other tourists or tourism providers remain a significant part of the overall social dimension of the tourist experience, this study highlights that technology can potentially add further social dimensions of co-creation through the connection to the social network online. In this vein, it is not the technological tools per se but rather the social connection to people online that render the experience more social. In that the findings indicate a connection to the everyday life, this study has major implications on the existing theoretical assumptions portraying the tourist experience as an escapism from and reversal of the everyday life (Cohen, 1979). In contrast to the existing the understanding, this study highlights that tourists use technology primarily as a means to connect with the everyday life for multiple purposes, as to stay up-to-date, not losing touch with people, maintain social relations and share while undergoing tourist experiences on-site. The key question is thus whether technology is a potential catalyst of change breaking down the hitherto clear boundaries tourism and everyday life. In addition to the potential of technology for social connectedness, the study highlights that there is also a contrasting movement towards disconnectedness from the social network online. In this vein, technology is perceived as a diminishing factor in the overall tourist experience when it is considered to be too immersive or distracting and detaches the tourist from the real physical surroundings.

This study makes a number of critical contributions to tourism theory and practice. On theoretical grounds, this study contributes to the recent studies exploring mobile technologies for experiences (Wang et al., 2013) and the value of technology facilitated co-creation (Neuhofer et al., 2012), by empirically exploring social dimensions of co-creation through technology. This study adds knowledge by providing dimensions of

social connectedness which can be used as a basis for further research in the C2C co-creation as well as technology domain. In acknowledging the limitations of this study in terms of a qualitative and hence small sample size, the need for further research of both qualitative and quantitative nature is suggested. For instance, studies could build on the findings by analysing and breaking down the social network of friends, peers, family and companies to understand their specific roles and potential differences in co-creation processes of the tourist experiences. A further aspect worth exploring is the notion of experience co-living from the view of those 'being at home' to understand the effect of socially shared experiences on them for inspiration, decision-making and travel planning alike. Moreover, the idea of constant social connectedness in contrast to the notion of escapism from everyday life is a critical notion worth exploring in future studies. To complement qualitative enquiries, quantitative studies are needed to test the presented findings on a larger scale by looking for possible effects of socially intense co-creation on value extraction or satisfaction. For the industry and management context, this study suggests a number of practical implications. While experience co-creation practices are realised throughout a number of industries, co-creation (Binkhorst & Den Dekker, 2009), and especially technology-facilitated co-creation (Chathoth et al., 2013) are still limited in tourism. Therefore, this study suggests exploring the potential of technology as a key tool to facilitate more opportunities for social co-creation experiences for the tourist consumer. Thereby, it is of particular importance to support consumers to co-create experiences outside the company domain with each other (C2C). This means that first and foremost the technological requirements need to be fulfilled that allow the tourist to be connected, for instance, through wireless access in hotel rooms, at airports and wireless destinations. If successfully facilitated, important implications for businesses can unfold, as consumers can more effectively connect on the move and co-create an enhanced experience and value, not only with the own network but also with the tourism provider online.

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Appendix 14.8: Conference Paper 3

Neuhofer, B., Buhalis, D. and Ladkin, A. 2013. Experiences, co-creation and technology: A conceptual approach to enhance tourism experiences. *Proceedings of Cauthe* 2013, pp. 546-555.

Experiences, co-creation and technology: A conceptual approach to enhance tourism experiences

ABSTRACT

The notion of experiences constitutes an important concept in the context of travel and tourism. Tourism experiences are increasingly determined by experience co-creation and technology use. Considering the lack of literature addressing these changes, this paper has the aim to discuss the importance of co-creation and technology in the creation of enhanced experiences and higher value for the tourist. The paper contributes by conceptualising a four-quadrant Tourism Experience Value Matrix and by suggesting that with the increasing intensification of co-creation and technology-use, the value for the tourist can be maximised leading to enhanced tourism experiences. The paper conceptually differentiates between four major types of tourism experiences to provide a better understanding of their respective value progression and discusses its implications for tourism practice and research.

Key Words: Tourism experiences; co-creation; value; information and communication technologies; Tourism Experience Value Matrix; value progression;

INTRODUCTION

Tourists are increasingly in search of experiences by not only purchasing products and services but rather striving for the experience obtained by consuming products and services (Morgan, Lugosi & Ritchie, 2010). In the 1990s, Pine and Gilmore (1999) introduced the idea of the experience economy proposing that creating experiences is fundamental for any business, as simple product and service offers have become replicated and interchangeable (Morgan et al., 2010). Consequently the idea that companies need to deliver unique and memorable experiences to consumers has become an imperative over the past decade (Pine & Gilmore, 1999).

While the importance of experiences is unabated, two major changes have impacted on the tourism experience and challenged its current theoretical and practical understanding of how experiences and value are created. The experience economy is has been redefined as consumers are moving towards playing an active role in the co-creation of their own experiences (Prahalad & Ramaswamy, 2004). This idea has been fostered by Prahalad and Ramaswamy (2004) who argue that instead of consuming staged experiences, consumers now seek after more authenticity and expect a balance between the experience stager and their role as co-creators of experiences and value (Binkhorst, 2006; Ramaswamy & Gouillart, 2008). In addition, there is evidence that tourism experiences are not only co-created but increasingly technology-enabled (Tussyadiah & Fesenmaier, 2007; Tussyadiah & Fesenmaier, 2009; Tussyadiah & Zach, 2011). The recent advances in the field of information and communication technologies (ICTs) have consequential implications by changing the nature of tourism experiences fundamentally (Tussyadiah & Fesenmaier, 2007).

With increasing empowerment through technology, experience co-creation has been multiplied, richer experiences are created (Gretzel & Jamal, 2009) and higher value can be achieved. While tourism experiences have been discussed in relation to both co-creation (Binkhorst & Den Dekker, 2009) and technology (Tussyadiah & Fesenmaier, 2007), the combination of these elements with respect to the overall enhancement of experiences constitutes a major gap. The continuous enhancement and creation of innovative, compelling and valuable experiences is critical for business operating in the dynamic tourism industry. This paper therefore sets out to conceptually discuss how conventional tourism experiences can be enhanced in light of the recent advances in co-creation and technology. For this purpose, this paper reviews the latest developments of co-creation and ICTs and then sheds light on their role in the enhancement of experiences and value. It then presents a Tourism Experience Value Matrix which conceptually differentiates between four types of tourism experiences, to provide a better understanding and clearer picture of value maximisation in the context of tourism experiences.

THE NOTION OF TOURISM EXPERIENCES

Experiences have always constituted an important concept in tourism research (Uriely, 2005). Since its recognition in the 1960s, the notion of experience has been numerously defined and associated with a multiplicity of meanings (Moscardo, 2009). Depending on the respective discipline, a myriad of experience definitions from anthropological, sociological or psychological perspectives have emerged and evolved over time (Caru & Cova, 2003). In the domain of marketing, consensus seems to view experiences as personal occurrences, which are highly emotional significant obtained by the consumption of products and services (Holbrook & Hirschman, 1982). In acknowledging their distinctiveness from everyday life experiences (Cohen, 1979), experiences in the specific context of tourism have been portrayed as the search for the authentic in contrast to the inauthentic everyday life (MacCannell, 1973).

Experiences represent a significant component in the life of the contemporary consumer and have been regarded as the key to the understanding of consumer behaviour (Addis & Holbrook, 2001), the fundamental basis in marketing (Holbrook & Hirschman, 1982) and the experience economy (Pine & Gilmore, 1999). Experiences became the focus of attention by the late 1990s with the emergence of the renowned notion of the experience economy (Pine & Gilmore, 1999). With increasing difficulty to create competitive offers (Prahalad & Ramaswamy, 2004), companies have been looking for ways to differentiate their products and services.

Designing and delivering experiences to consumers has been proposed as the answer to creating competitive advantage and added value (Grönroos, 2000). In this vein, Pine and Gilmore (1999) proposed the concept of the progression of economic value, which demonstrates the transformation of commodities and goods into services, and conversion of services to experiences, determining the output offering the highest level of value to the consumer. With consumers paying a high price in exchange for high value, the strategic production of experiences has become key concept in the field of marketing (Darmer & Sundbo, 2008).

Appendices

VALUE THROUGH EXPERIENCE CO-CREATION

With the proliferation of the experience economy concept in practice, companies have reached a point where they need to look for ways to enhance and differentiate their experiences offered. Due to the power shift in company-consumer relationships taking place, the strategic staging of experiences has become increasingly criticised (Binkhorst & Den Dekker, 2009). As consumers have become more active and powerful, the traditional creation of experiences has undergone a transformation (Prahalad & Ramaswamy, 2004). The process of experience staging is perceived to be highly business-oriented, one-directed and superficial and thus no longer suitable to meet the needs of contemporary and empowered consumers (Boswijk, Thijssen & Peelen, 2007).

Consumer experiences have moved towards consumer centricity, whereby individuals play the main role in shaping the creation of their personal experiences and value (Prahalad & Ramaswamy, 2004). This shift has been primarily induced by the Internet as consumers are no longer passive but encouraged to lead how they participate and respond to information (King, 2002). Consumers ask for a balance between the company staging the experience and their role in co-creating the experience (Binkhorst, 2006; Ramaswamy & Gouillart, 2008). This movement has thus led to a shift in the distribution of roles between companies and the consumers. In experience co-creation, the individual human being is regarded as the new starting point of the experience (Binkhorst & Den Dekker, 2009). This development demonstrates that it is paramount for businesses to enter in a dialogue with consumers to co-create experiences and value together (Binkhorst & Den Dekker, 2009). "The personal meaning derived from the co-creation experience is what determines the value to the individual" (Prahalad & Ramaswamy, 2004, p.14). Consumers are constantly in search of experiences that are particularly valuable to them and co-creation has been proposed as a new means to offer a unique value proposition for consumers (Boswijk et al., 2007).

Through co-creation, companies enter a new paradigm of value creation which fosters growth, innovation and competitive advantage (Shaw, Bailey & Williams, 2011). Co-creation of value can occur anywhere throughout the service chain (van Limburg, 2012). With the availability of new tools this process is reinforced, as consumers are more involved in every part of the system to proactively co-create experiences and value in every step of the consumption (Prahalad & Ramaswamy, 2004). In this vein, information and communication play a particularly crucial role by facilitating co-creation (Prahalad & Ramaswamy, 2004) and mediating the overall tourism experience (Tussyadiah & Fesenmaier, 2007; Tussyadiah & Fesenmaier, 2009; Wang, Park & Fesenmaier, 2012).

VALUE THROUGH INFORMATION AND COMMUNICATION TECHNOLOGIES

The proliferation of information and communication technologies has caused a fundamental impact shaping not only society but the way many industries operate. The adoption of a range of ICTs and the Internet has induced a paradigm shift in the tourism industry, known as e-tourism (Buhalis & Jun, 2011). The travel and tourism industry has always gone hand in hand with the developments in the field of technology (Buhalis, 2003). This is because tourism, as a service-dominant sector, particularly benefits from the integration of technological innovations (Stamboulis & Skayannis, 2003), due to its high information need and intensity (Buhalis & Jun, 2011). As a result, over the past decades, technology has revolutionised the nature of the tourism industry

(Buhalis & Law, 2008) and has changed business practices by redefining roles and scopes of all stakeholders involved in the tourism system (Buhalis & Jun, 2011).

The advent of the Internet, as a platform of interaction, has played a critical role in advancing tourism (Buhalis & Law, 2008; Schmallegger & Carson, 2008). A wide range of technologies have come into use in the different stages of travel, i.e. prior, during and post-stage of the tourism experience consumption (Cho, Wang & Fesenmaier, 2002; Green, 2002; Mossberg, 2003; Gretzel, Fesenmaier & O'Leary, 2006; Huang, Backman & Backman, 2010). Stamboulis and Skayannis (2003) highlight that the plethora of ICTs available has had a substantial effect on the creation and consumption of the tourism product.

For instance, Binkhorst and Den Dekker (2009) argue that technologies, such as the Internet, virtual communities or immersive virtual worlds have altered how tourism is experienced. The emergence of the Web 2.0 and social media has turned the Internet into a wide space of social networking and collaboration of users (Sigala, 2009). Unlike any other medium before, social media embrace different people, technologies, content and new practices that support consumers in gathering information, sharing and creating new experiences (Xiang & Gretzel, 2010). Social media have become one of the most critical tools for both tourism businesses to dynamically engage with consumers and tourists to instantly re-create and share their experiences with others (McCarthy & Wright, 2004). As a result the social and interactive nature of ICTs, online spaces and user-generated content (Di Gangi & Wasko, 2009) facilitates the dual company-consumer co-creation of experiences and value on an unprecedented level.

At the same time, mobile technologies are critical in amplifying the use of these services for tourists on the move (Schmidt-Belz, Nick, Poslad & Zipf, 2002). Mobile devices have evolved to be transportable smart computers that can be accessed almost unlimited anywhere and anytime (Wang et al., 2012). With a plethora of ICTs available used by the tourist along every step of the tourism experience, new opportunities for a conjoint co-creation of experiences and value arise.

For instance, with the implementation of ICTs, the ways in which tourism experiences are delivered have become more and more differentiated (Sundbo & Hagedorn-Rasmussen, 2008). Moreover, Gretzel and Jamal (2009) predict that new types of technologies will generate a whole range of new tourism experiences. Technology functions as mediator of experiences and at the same time can become an experience itself (McCarthy & Wright, 2004). ICTs hence provide versatile instruments in the enhancement or creation of new types of tourism experiences. Literature confirms the benefit of embracing ICTs as an enhancer of conventional tourism experiences, which multiplies co-creation experiences (Prahalad & Ramaswamy, 2004), generates richer experiences (Tussyadiah & Fesenmaier, 2007) and yields more personalised experiences (Niininen, Buhalis & March, 2007; Sandström, Edvardsson, Kristensson & Magnusson, 2008). Taking these developments into account, it is without a doubt that ICTs have a significant impact on the nature of tourism experiences (Crouch & Desforges, 2003; Stamboulis & Skayannis, 2003; Tussyadiah & Fesenmaier, 2007; Tussyadiah & Fesenmaier, 2009). The critical question to raise is how to use the potential of both co-creation and ICTs in generating meaningful experiences and value.

Appendices

THE ENHANCMENT OF TOURISM EXPERIENCES

Beyond traditional experience co-creation, technologies will be critical to create enhanced tourism experiences (van Limburg, 2012). Technologies, in particular the Internet, have rendered individuals more empowered in their search for experiences and extraordinary value (Buhalis & Law, 2008). By taking advantage of the number of ICTs available, tourists have transformed into connected consumers striving after valuable technology enhanced experiences (Prahalad & Ramaswamy, 2004; Gretzel et al., 2006; Andersson, 2007; Günther & Hopfinger, 2009; Tsiotsou & Ratten, 2010). As a result, this paper suggests that the recent technological advancements provide unexploited opportunities for the travel and tourism industry to enhance and add value to co-creation experiences.

By embracing ICTs, tourism organisations are able to create enhanced experiences with tourist throughout their journey from early inspiration to the on-site travel experience and post travel recollection in the online world. Binkhorst and Den Dekker (2009) underline the role of ICTs as a major element in the co-creation of tourism experiences by allowing companies and tourists to engage through multiple platforms. These include technologies in all travel stages, for instance, websites, mobile devices, portable city guides, travel guides, virtual life environments or enhanced hotel rooms.

The pre-travel and post-travel stages, as socially intense phases (Gretzel & Jamal, 2009), are predestined for the integration of ICTs to foster interaction, engagement and co-creation among tourism providers, tourists and other tourism consumers alike. Technological solutions such as virtual reality systems are particularly useful in fostering a virtual engagement and enabling the tourist to pre- and post-experience the tourism product online (Huang et al., 2010). In order to enhance tourism experiences, it will be crucial for businesses to extend their sphere of activity to the virtual space to intensify engagement, extend experience co-creation and offer a higher value proposition to the tourist in the online world.

While being immersed in the tourism destination, mobile technologies provide key instruments in enhancing the movement through the physical tourism space. Location based services as well as context-based services play an increasingly important role for tourism (Beer et al., 2007, Grün et al., 2008). These services offer instant access to information, videos or recommendation sites, relevant to the current location, which is crucial for both tourism providers and consumers to connect, exchange and engage through these services on-site (Green, 2002). While being connected to social media applications, such as Facebook, Twitter or Foursquare, tourists can interact in an instant in exchanging and sharing their experiences, photos and social activities during the trip online (Wang et al., 2012). The tourism experience becomes an almost real-time shared adventure that is co-constructed with the connected social network of tourism providers, friends, followers and other tourists online. Mobile technologies constitute the key in taking the social dimension of the Web 2.0 and social media to a mobile, ubiquitous level to allow for experiences to be enhanced, intensified and co-created anywhere and anytime.

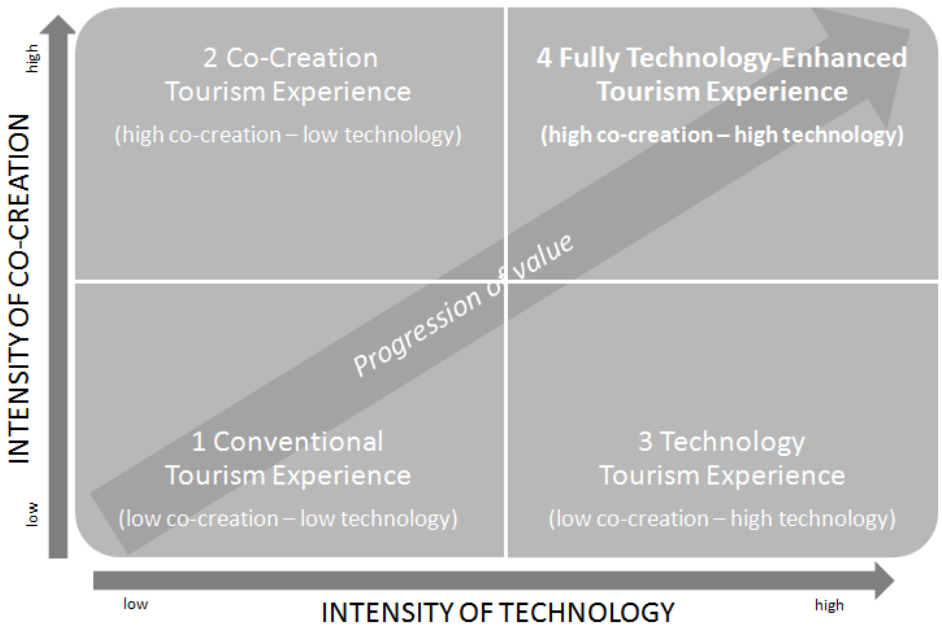
With the increasing the competition and emulation of experiences, travel and tourism businesses need to explore opportunities to dynamically create enhanced tourism experiences. The continuous increase of the value proposition offered to the tourist constitutes the utmost priority in experience creation. In light of the latest advancements in co-creation and technology, this paper suggests the need to develop a value progression that takes these factors into account. To provide a better understanding for

tourism businesses on how to strategically enhance experiences and value, a *Tourism Experience Value Matrix* has been developed, in Figure 1. This model depicts progressing value driven by two axes of increasing *intensity of co-creation* and *intensity of technology*. Resulting from the gradual intensification of both axes, this model conceptually differentiates between four major types of tourism experiences, including

1) conventional tourism experience, 2) co-creation tourism experience, 3) technology tourism experience and 4) fully technology-enhanced tourism experience, which are discussed in detail below.

Figure 1:

Tourism Experience Value Matrix



1 Conventional Tourism Experience

Conventional tourism experiences determine experiences as originally suggested in the experience economy by Pine and Gilmore in the 1990s. This type of experience is characterised by a company-centric approach of creating a pre-fabricated experience and delivering it to a mainly passive tourist consumer. Accordingly, the consumer's level of involvement, interaction and participation in the creation and production of the experience is relatively low and only occurs at the final consumption stage of the experience. In this particular type of experience, technology does not constitute an integral part, neither in the production nor in the consumption of the experience. This type of experience, so scholars of the experience economy argue, generates higher value for the tourists compared to products and services. While this may be true for a comparison to services, in light of the theoretical and practical advancements in the realm of experiences, it appears that this type of staged, conventional experience generates the least value for tourist consumers.

2 Co-Creation Tourism Experience

Co-creation tourism experiences can be considered as experiences that are not only passively staged but rather actively shaped and created by the tourist consumer in

conjunction with the company. With the increasing intensification of co-creation, the tourism experience becomes more consumer-oriented and interactive resulting in a higher level of value being obtained. However, in the current understanding of co-creation experiences, as defined in literature (Prahalad & Ramaswamy, 2004; Boswijk et al., 2007; Ramaswamy & Gouillart, 2008; Binkhorst & Den Dekker, 2009; Ramaswamy, 2009, 2011), co-creation lacks in the integration of technology. Without implementing ICTs, co-creation is restricted to interactions and engagement in the real world and offline spaces. This provides evidence for a restriction of interactions and engagement in the real world and offline spaces only. Considering the unexploited potential inherent in technology, it can be argued that co-creation would benefit from integrating ICTs. It could be extended to virtual spaces to co-create in pre- and post-travel phases online, intensify the timeframe of the tourist engagement and add value to the overall experience. Van Limburg (2012) underscore that the co-creation environment must be open for the potential brought by emerging ICTs, through which competitiveness by co-creation of value can be achieved (Shaw et al., 2011).

3 Technology Tourism Experience

Technology tourism experiences can be regarded as third experience type depicted in the matrix above. This type of experience is determined by a high level of technology use, which due to the low level of consumer involvement remains predominantly company-centric. Technologies are adopted for the company-internal facilitation of delivering tourism experiences. This kind of experience was mostly prevalent before the era of the Web 2.0 and social media. For instance, Web 1.0 non-interactive websites, distribution systems, reservations systems among a wide range of technological applications (Buhalis & Jun, 2011), had a massive impact on facilitating and improving the delivery of the tourism experience, while not allowing for tourists to interact, participate or co-create. Accordingly, the associated level of value is moderate due to a lack of involvement and possibilities of active co-creation of experiences on the part of the tourist.

4 Fully Technology-Enhanced Tourism Experience

In light of the recent developments and existing shortcomings of experiences as highlighted above, this paper suggests that the ultimate goal is to create experiences that maximise the potential offered by both elements co-creation *and* technology. Considering that staged experiences generate high value for consumers (Pine and Gilmore, 1999) and co-creation yields even higher value for consumers (Binkhorst & Den Dekker, 2009), this effect is intensified when the potential of technology unfolds. This paper therefore proposes that by concurrently increasing the intensity of co-creation and the intensity of technology, the highest value proposition for tourists can be achieved. As a result, this study thus puts forward the term *Fully Technology-Enhanced Tourism Experience*, as the ultimate and most desirable type of experience generating the highest level of value. In reflecting the social, interactive dimension of co-creation and the integration of technology, this experience is realised when a *tourist is highly involved, actively participating and co-creating by using various ICTs to empower this very process*. This experience can be considered as the most differentiated and valuable type of contemporary experiences. Scholars confirm the postulated positive progression of value, as the implementation of ICTs enhances experiences (Arnold & Geser, 2008), provides more satisfaction due to access and availability of services (Law, Leung & Buhalis, 2009) and creates more meaningful interrelations between the consumer and the experience environment (Binkhorst & Den Dekker, 2009). ICTs therefore need to be

considered as the key instrument for travel and tourism businesses in enhancing experiences and co-creation and adding value *for* and *with* the tourist consumer.

CONCLUSIONS AND IMPLICATIONS

This conceptual paper has provided a discussion of the notion of enhancing tourism experiences.

The review of literature indicated that recently, tourism experiences have not only been co-created but are also increasingly technology enabled. In light of the lack of studies discussing the enhancement of tourism experiences, this paper has set out to assess the role of both co-creation and technology in the creation of contemporary tourism experiences and added value. The main contribution of this paper is the development of a four-quadrant *Tourism Experience Value Matrix*, which suggests the need to maximise value by increasing the intensity of both co-creation and technology use at the same time. This model, by differentiating between four major types of tourism experiences, provides critical implications for the creation and management of tourism experiences for theory and practice.

For travel and tourism organisations, it is paramount to identify what particular type of tourism experience they are currently creating and what measures can be adopted to enhance experiences by intensifying co-creation or technology use respectively. As the most valuable tourism experience of the present and future is the one that offers both a maximum level of co-creation and technology contemporaneously, the matrix provides a useful tool for analysis to pinpoint unexplored potential for the enhancement of experiences. In terms of theory, this study is in line with the need for further experience research by developing a four-quadrant experience matrix that reflects the recent theoretical developments, conceptually advances the notion of value progression and provides a better understanding in differentiating tourism experience types. Future research is therefore needed to build upon this conceptual approach and employ the Tourism Experience Value Matrix empirically. In adopting the matrix as an instrument, future studies could analyse tourism businesses in terms of their respective value propositions offered and types of experiences created. Beyond the travel, tourism and hospitality industry, a more elaborated understanding of how to enhance experiences could benefit any experience-intense sector interested on the realisation of contemporary, innovative and competitive experiences.

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Appendix 14.9: Conference Paper 4

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High Tech for High Touch Experiences: A Case Study from the Hospitality Industry

Abstract

Experiences represent the core of the tourism and hospitality industry. Companies seek to create unique and personalised experiences by addressing the needs and wants of contemporary consumers who are looking for something new. While the importance of experiences is unquestioned, the understanding of how to use technology to create personalised experiences is limited in tourism theory and practice. Based on this rationale, this paper aims to explore how companies can strategically use technology to create personalised high-touch guest experiences. Following a single case study approach, this paper contributes by developing a process model proposing technology as a platform of co-creation. A two-fold information and experience flow is introduced between companies and consumers throughout multiple experience touch points. This exploratory study suggests high-tech as a critical factor in the co-creation and facilitation of high-touch experiences.

Keywords: Tourism experiences; ICTs; best practice; co-creation; touch points; case study;

1 INTRODUCTION

Information and communication technologies (ICTs) have had a significant impact on the entire tourism industry (Buhalis and Law, 2008). More specifically, technological advances have transformed how tourism products and services are produced and consumed (Prahalad and Ramaswamy, 2003, Stamboulis and Skayannis, 2003) and tourism experiences are created (Tussyadiah and Fesenmaier, 2007). ICTs have become an integral part of the entire journey throughout which tourists use technologies to generate richer experiences (Gretzel and Jamal, 2009) and are empowered to co-create more personal experiences (Prahalad and Ramaswamy, 2004). Recent developments, including an increasing consumer empowerment (Prahalad and Ramaswamy, 2004), the rise of prosumers (Ritzer and Jurgenson, 2010), a growing recognition of co-creation (Prahalad and Ramaswamy, 2004) and a realm of possibilities due to the developments in the field of technology (Wang et al., 2010), have contributed to substantial change in the conventional creation of tourism and hospitality experiences. In addition to exploiting the opportunities of integrating ICTs into experiences, it has become paramount for companies to conjointly create experiences with consumers (Prahalad and Ramaswamy, 2004). Increasingly active and involved consumers are in search of experiences that engage them in a personal way (Pine and Gilmore, 1999) and create value for them (Grönroos, 2000). Yet, it is not clear how the tourism industry can satisfy the continuous quest for meaningful experiences (Gretzel and Jamal, 2009). One way of doing so is to explore the potential of technology for the creation of more appealing tourism experiences. Gretzel et al. (2006) argue that consumers expect marketers to create personal and customised experiences by using the latest technologies available. ICTs are no longer only functional devices but need to be

considered as essential features of the creative lifestyle and experiences of contemporary tourist consumers (Gretzel and Jamal, 2009). While there is little question about the importance of technology in experiences, its full role, implementation and implications on the creation of tourism experiences are little understood (Beeton et al., 2006, Tussyadiah and Fesenmaier, 2007). Based on this rationale, the purpose of this research is to explore technology as a possible facilitator of personalised and meaningful experiences. Considering that companies successfully using ICTs to create enhanced experiences are scarce, the industry relies on few existing best practice examples. Hence, this study sets out to undertake an exploratory case study of a unique hospitality example with the aim to empirically explore how *high-tech* can be used to successfully create personalised *high-touch* tourism experiences. The paper firstly discusses the current theoretical background surrounding consumer empowered experiences and the impact of ICTs on experiences. It then outlines the case study approach, describes the case analysed, discusses results and findings and finally develops a process model depicting the creation of high-tech/high-touch tourism experiences as well as suggesting recommendations for future research.

2 THEORETICAL BACKGROUND

2.1 Consumer Empowered Experiences

Experiences have always constituted an important notion in tourism production and research (Uriely, 2005). Pizam (2010) argues that the creation of positive experiences constitutes the very essence of the hospitality industry. While location and price are important factors in the selection of a hotel, a recent study by Market Metrix confirms the factor *experience* as the main influence on determining the choice of a hotel (Barsky and Nash, 2010). However, over the past few years experiences have undergone a significant change. Consumers no longer purchase services but rather seek experiences obtained by the consumption of products and services (Morgan et al., 2010). The idea of companies creating long-lasting experiences has become of critical importance, as mere products have become replicated and commoditised (Morgan et al., 2010). To differentiate the offer and gain competitive advantage, the creation of experiences has been proposed as the key to success (Pine and Gilmore, 1999). With the proliferation of the experience economy (Pine and Gilmore, 1999) and the growing number of businesses offering experiences, it is no longer sufficient to merely design, stage and deliver experiences to consumers. The distribution of power and the roles of and relationships between companies and consumers in the production and consumption of experiences have also changed (Prahalad and Ramaswamy, 2004). With the movement towards a producer/consumer: prosumer-centric society, consumers play an active part in both the production and the consumption of their own experiences (Ritzer and Jurgenson, 2010). Instead of consuming pre-packaged products, services or Disney-type experiences (Gretzel and Jamal, 2009), contemporary consumers demand experiences that allow for an equilibrium of control between the company and their own role in the creation of experiences (Ramaswamy and Gouillart, 2008). In this new process, the main focus is placed on consumers, their inherent needs and wants and the way in which the company can address these to realise meaningful experiences (Ramaswamy and Gouillart, 2008). Ramaswamy (2009) suggests that the key is to allow for an active dialogue and experience co-creation with consumers. The critical question for companies therefore is how to facilitate processes that allow consumers to co-create meaningful experiences. Gupta and Vajic (2000) explain that personalised experiences can be created by the constant evaluation of consumer preferences while interacting in a particular context. In addition to actively engaging consumers (Prahalad and Ramaswamy, 2004), it is critical to collect, evaluate and respond to relevant information

about consumer needs and preferences. In this process, ICTs can play a particular role as useful tools for facilitating interaction (Buhalis and Law, 2008, Egger and Buhalis, 2008) as well as collecting information in an unobtrusive and cost-effective way (Raento et al., 2009).

2.2 Technology for Consumer Experiences

The proliferation of ICTs has implied a great potential and numerous opportunities for many industries, including the tourism industry (Wang et al., 2010). In particular, the advent of the Internet and new forms of communication and social interaction technologies (Ramaswamy and Gouillart, 2008) have empowered consumers in determining the way they receive and respond to information (King, 2002). This has fostered the shift in how consumers interact with companies (Buhalis, 2003) by evolving from passive recipients to connected and co-creating prosumers in a technology enabled experience environment (Andersson, 2007, Gretzel et al., 2006). Therefore, Shaw et al. (2011) raise the need to understand how ICTs have influenced the relationship between producers and consumers in interactions and the roles in the conjoint creation of experiences (Prahalad and Ramaswamy, 2004). Recent studies (e.g. Binkhorst and Den Dekker, 2009, Gretzel and Jamal, 2009, Tussyadiah and Fesenmaier, 2007, Tussyadiah and Fesenmaier, 2009) emphasise that ICTs support experience co-creation in a number of different ways. For instance, technology can function as a platform of interaction between companies and consumers (Hultkrantz, 2002), through which they can establish a dialogue (Buhalis and Licata, 2000) and in turn create more meaningful interrelations (Binkhorst and Den Dekker, 2009). Furthermore, the use of Web 2.0 applications, such as blogs, videos, wikis, fora, chat rooms or podcasts, including the prominent examples of Facebook, YouTube or Twitter, have fostered communication, social interaction and co-creation of experiences to an unprecedented extent (Dwivedi et al., 2012, Hays et al., 2012). With a variety of interactive tools available, consumers are enabled to co-create experiences in every part of the business system (Prahalad and Ramaswamy, 2004). Hence, van Limburg (2012) suggests that companies need to embrace the full potential of technology for the creation of more personalised consumer experiences. With technology in place, Piccoli et al. (2003) highlight that companies can collect, consolidate, manipulate and analyse consumer needs and preferences on an unparalleled scale to facilitate tailor-made experiences. Technology is key for encouraging consumer participation, collecting information and treating different consumers differently (Piccoli et al., 2003). By doing so, a more interactive and participatory relationship between companies and consumers is established, needs of consumers are met and enhanced experiences can be created (Ramaswamy and Gouillart, 2008). The notion that consumers increasingly expect highly personalised and customised experiences through ICTs (Gretzel et al., 2006) leads to the rationale of this study; to develop an understanding of how *high-tech* can be used to create personalised *high-touch* tourism experiences.

3 METHODOLOGY

3.1 Case Study Approach

An exploratory case study was conducted to develop an understanding of the implementation of high-tech for the creation of high-touch guest experiences. The choice of the case study approach is based on the argument by Binkhorst and Den Dekker (2009) who highlight that to date most experience creators rely on a few best practice examples of the industry. The understanding of ICTs in the realisation of experiences is still limited in both theory and practice (Tussyadiah and Fesenmaier, 2007). Hence, a single case study was adopted to assess a leading best practice example

from the tourism and hospitality industry in order to develop an understanding of high-tech for high-touch tourism and hospitality experiences. For this particular study, the Hotel Lugano Dante, Switzerland, was selected as a best practice experience example, the evidence for which is supported by being awarded the third place for its overall approach towards excellence in customer service at ENTER2012. The purposive selection of this case was particularly effective, as the goal was to gain an in-depth understanding of what is taking place in the particular context of hospitality experiences. The main focus lies on the "process rather than outcomes, in context rather than a specific variable, in discovery rather than confirmation" (Merriam, 1998, p. 19). Moreover, the selection of a hospitality case provides a particularly suitable research environment as it constitutes the only industry with a high customer service in which it is possible to collect a large amount of information about guests at a multiplicity of touch points (Piccoli et al., 2003). Considering the exploratory nature of this study, a mix of qualitative methods was employed to draw from multiple sources of evidence (Yin, 2003), triangulate the data and strengthen the results. Methods included a) an assessment of documentary information, presentation slides and written notes from a conference presentation which served to comprehend the practical realisation and process of implementing ICTs into the experience; b) an unstructured interview with the General Manager of the hotel aimed at gathering insights into the company-centric perspective, philosophy and principles of experience creation; and c) an examination of guest feedback of the hotel on the online review website TripAdvisor for the purpose of understanding the consumer perspective of the experience. This threefold process was crucial to complement the data in building a comprehensive understanding of the role of high-tech in the creation of personalised high-touch guest experiences.

3.2 Case Study Description

Hotel Lugano Dante, a 4 star hotel located in Lugano, Switzerland can be considered as a current best practice example for using technology to enhance guest experiences. Having been recognised for its customer service excellence at ENTER2012, it represents a unique example of high-touch experience creation through a technology called HGRM, Happy Guest Relationship Management. In recognising the fact that experiences constitute the number one reason to choose a hotel (Barsky and Nash, 2010), Hotel Lugano Dante has implemented a digital customer relationship management tool into all operational structures of the hotel. This system functions as a platform that amalgamates all interactions of staff and guests on one level throughout the entire journey. By including the pre-arrival, hotel stay and post-departure stage, the system enables a consistent engagement at multiple touch points. These points include hotel operations, such as reservations, reception, housekeeping, breakfast, maintenance, bar, marketing, welcome, sales and revenue. Throughout these touch points the hotel and guests are interconnected. While guests are actively involved and empowered to share personal preferences, these are collected by the hotel to transform simple service encounters into co-created personalised experiences.

4 CASE STUDY ANALYSIS

In the present case study, technology in the form of the HGRM comes into place as a central platform of interaction that unifies all interactions between staff and guests throughout the pre-stay, in-house and after-stay stage of the journey. This technology provides a comprehensive database that saves all information concerning the guest's stay which can be centrally accessed by both staff (company) and guest (consumer) for a conjoint experience co-creation. All staff members have access to the system through computers and mobile devices, such as iPhones and iPads, in all departments of the

entire operation system. Guests can access the system through a personalised guest website (MyPage) to communicate, manage the stay, meet and engage with members of staff and select personal preferences. The high level of interactivity represents the key factor of this system to allow for a co-created guest experience by enabling consumers to participate and share relevant information for a personalised and more valuable experience. Buhalis and Law (2008) underline that the interactivity between companies and consumers has generated great opportunities to maximise value propositions. Hence, the analysis of the case study has the purpose of developing a comprehensive understanding of a) how this platform leads to personalised guest experiences, and b) on a more generic level, how high-tech can be used to create high-touch tourism and hospitality experiences. For this purpose, the case study analysis discusses specific stages, touch points, interactions and processes involved in experience creation.

Stages and Touch Points

Touch points in the specific context of hospitality and tourism determine places in which encounters, transactions or consumption take place. As the case shows, there are a vast number of touch points which include all hotel departments, comprising reservations, reception, housekeeping, breakfast, maintenance, bar, marketing, welcome, sales and revenue. According to the Hotel Lugano Dante, the number of touch points in the specific case of a hotel amount to 750,000 interactions per year. Considering the number of departments and encounters involved, the HGRM facilitates experience touch points not only during the physical hotel stay but also includes interactions prior to the guest's arrival as well as after the departure. This is in line with previous research. For example, Gretzel and Jamal (2009) suggest that ICTs can be implemented to enrich travel experiences, not only on-site but throughout different phases of a journey, including pre, during and post travel. In the *pre-stay stage*, guests are contacted for the first time through their personal web page, called MyPage. This initial interaction primarily serves the purpose of engagement and a two-fold information exchange. First, information exchange occurs in form of an information provision (company to guest) to confirm the booking, provide relevant information regarding check-in time, Internet, travel route and weather conditions. Second, it serves for the collection of guest information (guest to company) to identify questions, special needs, requirements and personal preferences. In addition to exchanging information, personal guest engagement is fostered, which manifests itself in a welcome-soon message and an introduction of individual members of staff (with photos and names) who will be specifically welcoming and undertaking the check-in on the day of the guest's arrival. According to the Hotel Lugano Dante, engaging the guest a few days before the arrival is indispensable as to a) *establish a personal relationship*, b) *engage members of staff* and c) *collect the information needed for a personalised guest experience*. The pre-travel stage proves to be a critical part for both parties to connect, co-create the hotel experience as well as enhance the overall pre-travel experience. Guest reviews from TripAdvisor confirm the importance of pre-travel co-creation by stating: *"We were happy with the service even before we arrived, as they allow us to choose, through an email sent to us a day before the trip, many elements of our stay, from the kind of pillows we wanted to what sort of beverages we would appreciate in our minibar"* (Review TripAdvisor). Another guest adds: "*You can setup your room before arrival. It's really pleasant to feel like home each time we are there"* (Review TripAdvisor).

The *hotel-stay stage* represents the most interaction-intense stage due to the number of personal encounters between guests and members of staff in the physical hotel environment. During the stay, the hotel creates experiences on multiple touch points,

including the breakfast room, bar, housekeeping, front office, maintenance or car park. In the hotel setting, the HGRM platform, accessed through computers or mobile devices, functions as a cockpit for all members of staff by centralising all interactions throughout every department of the hotel. By accessing the interactive platform, relevant guest information, based on name or room number, can be easily and instantly retrieved, changed or added, in real time. For instance, these service touch points include managing the guest's room status (ready or not), locating the guest (in room, lobby, restaurant), transferring the luggage (in lobby, room), and managing guest arrivals, requests, as well as already known or newly emerging preferences. By being connected through a synchronised technological platform at all times, information can be exchanged in the hotel anywhere and anytime. This implies that guest experiences are no longer static and passively designed by a hotel provider but are rather personalised, dynamically and proactively co-created between guests and staff at the specific service encounter in real time. The *post-stay stage* determines checking-out and the guest's return to the home environment. In this stage, it is not the collection of information that is central but rather the personal engagement which is of critical importance. Through the guest's personal web page (MyPage), a welcome back home message, invitation to leave a comment and an invitation to the member page is sent to engage guests in order to build a long-lasting relation, enhance the travel remembrance and post-stay experience and create added value.

Information Flow

The case analysis indicates that the HGRM, as the technology under investigation, represents a two-fold interaction platform. It unites guests, who access the system through their personal page and hotel staff, who use the platform as a cockpit in the hotel environment for the facilitation of experiences. For personalised experiences to be created, it seems evident that two distinct flows for experience creation need to take place, including a) an information flow and b) an experience flow. Information flow is critical as to understand tourist behaviours, choices and concerns, which according to Buhalis and Law (2008) tourism organisations need to gather in all stages, before, during and after the travel. The information provided by guests, either prior or during the stay, is collected on the platform where it can be easily accessed by all members of staff in different service touch points. To co-create their personalised experiences, guests are asked to actively share a range of information indicating preferences, such as room comfort, temperature, ideal bed, special requirements for children, settings for business or pleasure, favourite newspapers, drinks or interests. The consumer perspective testifies the active involvement "*You can pick your preferences amongst many choices: pillows, sheets, heating system, car parking, extra towels and stuff like that. This is UNIQUE*" (Review TripAdvisor). The GM of the Hotel Lugano Dante explains that collecting this information is crucial for establishing a better profile, developing a relationship, making guests feel special, anticipating their needs and in turn creating an enhanced experience in multiple touch points of the journey. This is in line with Buhalis and Law (2008) who affirm that consumer profiling leads to improved interaction between consumers and tourism providers, better personalisation and customisation of the tourist experience. As tourists are increasingly willing to share personal information "in exchange for recognition and better services" (Buhalis and Law, 2008, p. 614), *information flow* is suggested as a prerequisite for the co-creation of personalised high-touch experiences.

Experience Flow

Given that guests co-create by sharing a high level of information, the second flow, namely the creation of high-touch experiences can occur. All members of staff in

different departments can access guest information through the cockpit at a glance. This allows them to interconnect, communicate, retrieve existing information as well as upload new information while co-creating the experience with the guest. Considering the intensity of interactions and encounters within a hotel setting, the adoption of technology proves to be indispensable. It allows members of staff to a) anticipate guest needs throughout multiple touch points, b) address their needs in real time and c) synchronise incoming preferences and needs for future encounters. As a consequence, the interactive platform enabling staff to access the relevant information at the right time in right place, allows them to be proactive and co-create more personal, customised and valuable experiences with the guest. Guest reviews confirm a high value experience, by stating: "*My husband and I had an excellent experience at the Lugano Dante from the moment we booked to the time we checked out*", "*It was an amazing experience staying here - from beginning to end*" (Review TripAdvisor).

Outcome: High-Tech for High-Touch Experiences

Given the high level of interaction and exchange of information, the case study demonstrates that the implementation of high-tech is a crucial determinant for high-touch experiences. The analysis of the case study suggests that with the use of technology the personal touch is intensified compared to non-technology supported experiences. By implementing an engagement platform, such as the HGRM, guests and staff are connected and closer than ever before. The engagement platform not only considers guests but also individual members of staff as central co-creators of the experience. This is demonstrated by providing guests with names of members of staff, job positions and pictures already before the arrival. As every member of staff is equipped with the HGRM cockpit, direct and more personal engagement between guests and single members of staff has become possible. This reduces the anonymity of the conventional service provision and places the focus on meaningful and personal one-to-one relationships. Technology hence needs to be considered key in assisting these personal encounters, making guests feel more recognised in order to lead to a more personal experience at every touch point of the guest's journey. In order to graphically demonstrate the process leading to high-touch experiences on a generic level, this study has developed a process model, as shown in Figure 1.

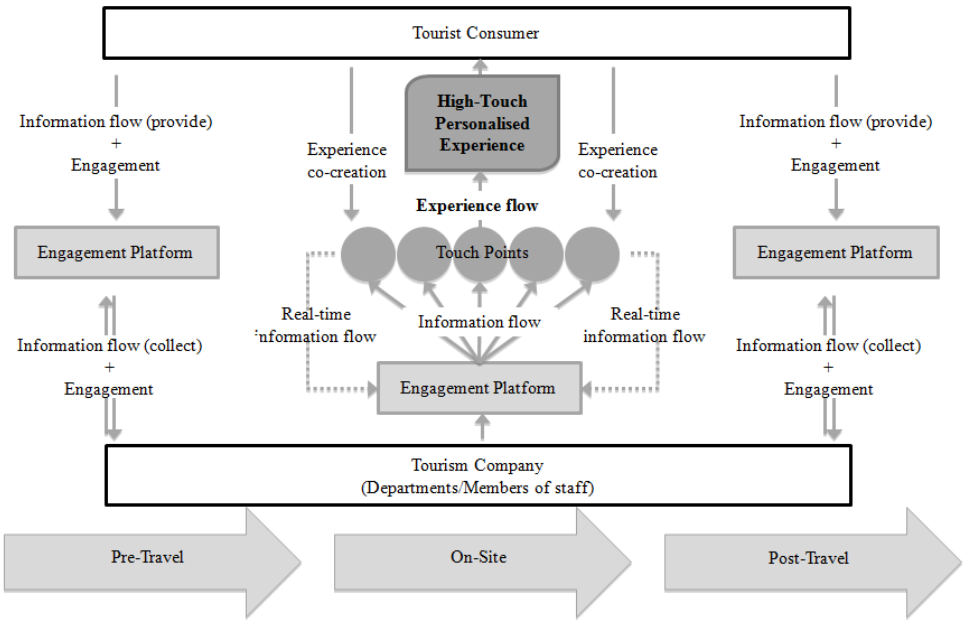

Fig. 1. High-Tech High-Touch Experience Process Model

This graphically presents the process of technology use (engagement platform) connecting the tourism company and the tourism consumer at multiple touch points alongside the pre-, on-site, and post-stage of travel, through which they co-create by providing information (consumer) and co-creating a high touch personalised guest experience (company) .

5 DISCUSSION

Tourism is determined by a high level of interaction between the tourism system, its people and the individual human being as the tourist (Larsen, 2007). The analysis of the case study has revealed a critical insight into how the implementation of high-tech can lead to high-touch guest experiences in the context of the hospitality industry. This study has shown that technology can enhance interrelations between guests and members of staff through integrating single encounters to personalised experiences and co-creation with customer involvement. This research is therefore in line with previous studies, such as Niininen et al. (2007) who argue that information technologies foster consumer centricity by allowing consumers to customise products and personalise their experiences. In this vein, a number of authors support the notion that technology is an ideal instrument to facilitate richer experiences (Tussyadiah and Fesenmaier, 2007) and enable personalised experiences (Niininen et al., 2007, Sandström et al., 2008). The idea of personal, meaningful experiences *per se* is not new but has been discussed in previous literature (e.g. Benckendorff et al., 2005, Sheldon, 1997, Stipanuk, 1993). However, technology has predominantly been assigned contrasting roles, as a creator, protector, enhancer or destroyer of the tourism experience (Stipanuk, 1993), indicating an existing discrepancy between technology and human experiences. For instance, Sheldon (1997) argues that high-tech travellers value the application of technology for the delivery of better travel experiences, whereas high-touch tourists repute technology as disruptive element in the experience. In this view, it is argued that high-touch tourists escape the modern technology-dominated world in search for human interactions. Sheldon (1997) suggests not to completely neglect technology for these consumers but to apply it only in the background of services. In a similar vein, Benckendorff et al. (2005) emphasise that technology can either be implemented in the backstage, where it is hidden from the tourist, or in the front stage, where it is overtly implemented for the creation and enhancement of tourist experiences.

The analysis of the present case study predominantly contradicts the existing literature proclaiming a contradictory role and detrimental effects of ICTs use on high-touch experiences. Rather, the case study leads to the suggestion that high-tech and high-touch experiences are by no means mutually exclusive but reinforcing. Technology is used in the foreground operations, proactively, together with consumers and constitutes an integral part of the overall guest experience. Technology functions as a platform of interaction requiring active involvement of both the company and the consumer to co-create the experience together. Technology hence plays a central element in adding a more personal touch, enhancing the level of interactions and engagement, building more meaningful relations and adding value to the overall experience. Before guests arrive they have already established the parameters of service delivery and have their expectations managed. The GM of Hotel Lugano Dante underlines that "*the use of technology can add real value to the service. But the service itself must be of high quality as technology on its own does not provide good service but can only be used to enhance good service*". As future tourism products need to be more creative and personalised (Gretzel and Jamal, 2009), technology needs to be considered as a key tool in the co-creation of personal experiences. This study argues that through the effective

use of interactive technologies for engagement, co-creation and personalisation, the tourism industry can satisfy the growing quest for meaningful experiences.

6 CONCLUSION

The creation of successful experiences is the essence of the tourism and hospitality industry. This study aimed to provide an understanding on how *high-tech* can be used to create *high-touch* personalised tourism experiences. The Hotel Lugano Dante case study offers a leading hospitality example and provides invaluable insights into facilitating high-touch experience creation. This study has contradicted the existing literature by arguing that technology must not be understood as mere technological artefact that hinders human interaction. Instead, it constitutes a key tool to facilitate more individual, one-to-one, personalised experiences. High-touch experiences are facilitated through technologies allowing for two-fold information and experience flow. Consumers are interactive, involved and share information while the company and its members of staff are interconnected and using information to facilitate co-created high touch experiences with consumers. Engagement is critical for this co-creation process. Successful organisations of the future will use innovative technology to create innovative, unique, personal high-touch experiences.

The present case study offers a number of implications for tourism theory and practice. In terms of theory, the study contributes to the current understanding of technology in the co-creation of contemporary tourism and hospitality experiences. It provides an integrated high-tech high-touch experience process model demonstrating the underlying technology-enabled processes necessary in the creation of personal experiences. In terms of practical implications this case study provides evidence that technology, instead of being regarded as a destroyer of high-touch experiences, is a key facilitator of personal experiences with a high-touch. This is particularly relevant to the tourism industry, as a sector which is dependent on creating more personal experiences by reducing interchangeability of the tourism product and creating distinct value for the consumer. As any study of an exploratory nature, a number of limitations need to be acknowledged and which could be addressed in the future. Further research is needed to build upon and extend the understanding developed in this study. The single case adopted in this study could be further strengthened by conducting a multiple case study to diversify examples and to allow for a comprehensive cross-case analysis. In addition to the company perspective, consumer studies are needed to complement these findings and lead to a holistic understanding of high-touch experiences from both a company and a consumer perspective.

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Appendix 14.10: Conference Paper 5

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Understanding and managing technology-enabled enhanced tourist experiences

ABSTRACT

The notion of consumers increasingly striving for experiences constitutes a prevalent concept, particularly in tourism, as one of the largest experience creating industries. The recent impact of information and communication technologies has profoundly changed the nature of tourist experiences, the understanding of which is crucial for creating and delivering competitive experiences in the future. However, there is evidence that experiences in a technology-mediated context are currently little understood. This led to the purpose of this paper to conceptualise the new phenomenon *Technology-Enabled Enhanced Tourist Experiences* to understand, manage and create these experiences in the future.

Key Words: Experience economy; tourist experiences; information and communication technologies; experience co-creation;

INTRODUCTION

Consumers are increasingly striving for experiences today (Pine and Gilmore, 1999) by not only buying into products and services but rather buying into the experience delivered by the consumption of products and services (Morgan et al., 2010). This was the seminal proposition by Pine and Gilmore (1999) who claimed that delivering competitive experiences has become indisputable, as products have become interchangeable, replicated and commoditised (Morgan et al., 2010). As a consequence, competitive advantage can only be achieved by providing consumers with unique and memorable experiences (Pine and Gilmore, 1999).

The increasing proliferation of information and communication technologies (ICTs) has had fundamental impacts on the tourist experience (Tussyadiah and Fesenmaier, 2007). The tourism industry has always been in the forefront of technology (Sheldon, 1997). However, the technological advancements of the past decades have not only changed business and industry but have also revolutionised the nature of tourism (Buhalis and Law, 2008). In particular, emerging technologies of the recent years have been changing the nature of the tourist experience distinctively (Tussyadiah and Fesenmaier, 2007).

Due to the major impact of technology on tourist experiences, current literature (e.g. Beeton et al., 2006; Tussyadiah and Fesenmaier, 2007) postulates that there is a lack of understanding of the factor technology in the tourist experience. Considering that businesses in the tourism industry need to understand the tourist experience in order to be able to create and deliver competitive experiences (Zehrer, 2009), it is crucial to capture the changing nature of the tourist experience and understand the role technology plays in this process.

Based on this lack of understanding, this paper aims to explore the dynamic technological advances in the tourist experience in order to understand how ICTs can enhance the tourist experience throughout all stages, i.e. pre/during/post, of the tourist's travel process. This paper contributes by conceptualising the new phenomenon called Technology-Enabled Enhanced Tourist Experiences and discussing implications the future creation and management of experiences.

TOURIST EXPERIENCES

The term experience, originally noted in the 1960s, covers a multiplicity of definitions (Moscardo, 2009). In general, experience can be regarded as a personal occurrence with highly emotional significance obtained by the consumption of products and services (Holbrook and Hirschman, 1982). In a tourism context, experience represents a complex construct, which has been postulated as distinct from everyday life experiences (Cohen, 1979). Since the early 1970s a vast body of literature has emerged (e.g. MacCannell, 1973; Csikszentmihalyi, 1975; Cohen, 1979; Mannell and Iso-Ahola, 1987; Ryan, 1997) establishing the theoretical basis of the experience concept.

Experience has always constituted an important notion in tourism research and practice (Uriely, 2005). In recent years, the concept has received a new current of attention, as consumers are increasingly striving for experiences delivered by services (Gretzel et al., 2006). This trend has been reflected in the amount of state-of-the-art literature (e.g. Darmer and Sundbo, 2008, Tussyadiah and Fesenmaier, 2009; Cutler and Carmichael, 2010; Morgan et al., 2010; Sharpley and Stone, 2010; Tung and Ritchie, 2011), attesting the cutting-edge character of this research topic.

At the beginning of the 21st century, experience has received a newly aroused interest, which is confirmed by Ritchie and Hudson (2009) who testify an on-going evolution in the field of experience. In a review of existing tourism experience literature, Ritchie and Hudson (2009) depict the evolution of this concept from the early seeds of the experience by Csikszentmihalyi (1975), SERVQUAL (Parasuraman et al., 1988) towards satisfactory experiences (Ryan, 1995), quality experiences (Jennings, 2006) and finally memorable experiences (Tung and Ritchie, 2011). By advancing the previously established notions, memorable experiences are regarded as the ultimate experience that consumers aim to obtain (Tung and Ritchie, 2011).

Despite the attention received from both academia and industry (Volo, 2009), a number of authors, such as Fitzsimmons and Fitzsimmons (2000) urge for further theoretical exploration, as experience still lacks in theoretical basis (Gupta and Vajic, 2000) and knowledge in nature and design of experiences, on both theoretical and managerial level (Zehrer, 2009). In addition to the existing gaps in experience research, there is evidence that tourist experiences are undergoing a significant shift.

Tussyadiah and Fesenmaier (2007) claim that due to the impact of ICTs on the tourist experience, the nature of the tourist experience is currently changing distinctively. This is supported by Gretzel and Jamal (2009) who argue that a whole new range of tourist experiences becomes available, as new types of technologies facilitate new activities. However, in order to successfully create experiences for and with the tourist consumer, first of all an understanding of the changing nature of the experience, i.e., how technology enhances the tourist experience, needs to be developed.

Appendices

INFORMATION AND COMMUNICATION TECHNOLOGIES

In the 21st century society has been undergoing a number of fundamental changes. One of the most far-reaching shifts concerns the proliferation of information and communication technologies (ICTs). The technological advancement of the past years has not only impacted on society but has determined the way many industries, including the tourism industry, work. The travel and tourism industry has always been in the forefront of technology (Sheldon, 1997). As a matter of fact, considering the characteristics of tourism as a service-dominant industry, ICTs have always played a major role (Stamboulis and Skayannis, 2003).

However, the latest technological developments have not only changed the industry but have greatly revolutionised the nature of tourism (Buhalis and Law, 2008). Stamboulis and Skayannis (2003) confirm that tourism has been facing significant changes in recent years, besides new forms of tourism, the proliferation of ICTs has had a huge impact on the creation, production as well as the consumption of the tourism product. One evolution of this kind regards the changing nature of the tourist experience (Tussyadiah and Fesenmaier, 2007). Crouch and Desforges (2003) claim that technologies have not only become adopted in people's everyday lives but have become increasingly implemented in tourist experiences.

As literature indicates, a vast range of technologies are implemented throughout various stages of the tourist experience (Cho et al., 2002, Green, 2002, Mossberg, 2003, Gretzel et al., 2006, Huang et al., 2010). However, many studies up to date have only touched upon technology in the tourist experience by naming single scenarios of technology use or refereeing to examples of technology adoption in the tourism industry. Binkhorst and Den Dekker (2009) for instance, recognise that technologies have an influence on the tourist experience by citing the Internet, virtual communities or Second Life as examples. However, Darmer and Sundbo (2008) go beyond the mere acknowledgement of ICTs in the tourist experience and argue that emerging technologies will actually give rise to new types of tourist experiences.

Considering that the tourist experience in a technology-mediated context is currently little understood in literature (Beeton et al., 2006; Tussyadiah and Fesenmaier, 2007), thus leads to the claim that a conceptualisation of a new phenomenon called the *Technology-Enabled Enhanced Tourist Experience* is imperative. This paper makes an attempt to fill an existing gap by developing a preliminary understanding of how ICTs can enhance the tourist experience throughout all stages, i.e. pre/during/post stage of the tourist's travel process and how this new type of experience can be created and managed in practice.

UNDERSTANDING

TECHNOLOGY-ENABLED ENHANCED TOURIST EXPERIENCES

Today, consumers expect marketers to deliver personalised experiences by meeting the latest technological standards to engage with them (Gretzel et al., 2006). Considering that tourist experiences are multidimensional in nature, various services are involved along the customer journey, including a before, during and after phase of the trip (Stickdorn and Zehrer, 2009). Mossberg (2003) confirms that experiences, especially in tourism, are not restricted to the simple service, respectively experience encounter but begin much prior the trip with the creation of expectations. To conceptualise the Technology-Enabled Enhanced Tourist Experience, it is thus crucial to understand the role that ICTs play in all stages of the tourist experience.

According to Gretzel and Jamal (2009), the pre-phase is characterised as an actively involved and socially intense phase. In the context of virtual reality systems, Cho et al. (2002) claim that due to the emergence of the Internet, tourists are now able to virtually experience and assess a destination before their physical travel. In this regard, Huang et al. (2010) mention the social network service Second Life, which offers a virtual environment that has become attractive for the tourism industry by representing products and services in a three-dimensional online world (Huang et al., 2010). Moreover, Gretzel et al. (2000) argue that destination websites with a high level of interactivity constitute a great experience enhancement for consumers. This is in line with Huang et al. (2010) who state that tourism marketers nowadays explore and use the possibilities of immersive virtual environments to enhance and enrich consumer experiences.

The actual physical travel phase to the destination is characterised by the tourist being on the move. The increased mobility and availability of ICTs have in particular rendered mobile technologies key tools of the 21st century (Egger and Jooss, 2010). Due to the ubiquity of mobile services enabling access to information, videos or recommendation sites (Green, 2002) and information retrieval anywhere and anytime (Balasubramanian et al., 2002), these services entail great potentials to enhance the experience at the tourism destination. Green (2002) outlines that mobile devices, such as smart phones, allow tourists not only to take a picture for themselves but immediately share their experiences while experiencing them and thereby reconstructing and changing the nature of the experience (Green, 2002).

Tussyadiah and Fesenmaier (2009) state that technologies, such as shared images or pictures are of particular importance in the pre- and post-travel stages. In the post-stage, the sharing of experiences through technology supports tourists in their recollection and remembrance of the previously undergone travel. In addition, Fotis et al. (2011) outline that post-travel stage simultaneously remarks the beginning of the dreaming stage of the next travel, in which ideas and inspiration for future travels are collected. As a consequence, Gretzel and Jamal (2009) urge that the pre-experience phase for the travel preparation as well as the post-experience stage for the reconstruction of experiences are critical phases which need to be taken into account in the overall enhancement of the tourist experience.

As recent literature (e.g. Tussyadiah and Fesenmaier, 2009; Huang et al., 2010) indicates, diverse ICTs are implemented throughout different stages of the tourism experience consumption process. In contrast to traditional, that is non-technology-enabled, experiences, Tussyadiah and Fesenmaier (2007) claim that technologies enable tourists to create richer experiences. Prahalad and Ramaswamy (2004) take this argument further and reveal that technology empowers consumers not only to consume but actually co-create their own personal experiences. As a matter of fact, with the increasing use of technology, tourist consumers have transformed from passive recipients of information to connected prosumers in a technology-mediated tourism experience environment (Andersson, 2007, Gretzel et al., 2006; Prahalad and Ramaswamy, 2004).

Appendices

MANAGING

TECHNOLOGY-ENABLED ENHANCED TOURIST EXPERIENCES

Understanding the very nature and characteristics of an experience is central to the successful management of tourist experiences. The creation and delivery of experiences has become an important endeavour for businesses and the industry (Pine and Gilmore, 1999), as competitive advantage can only be achieved by providing consumers with unique and memorable experiences (Pine and Gilmore, 1999) and creating added value (Grönroos, 2000). From an experience economy perspective, Pine and Gilmore (1999) state that the natural progression of value is to stage experiences; "staging experiences is not about entertaining customers; it's about engaging them" (Pine and Gilmore, 1999, p.30).

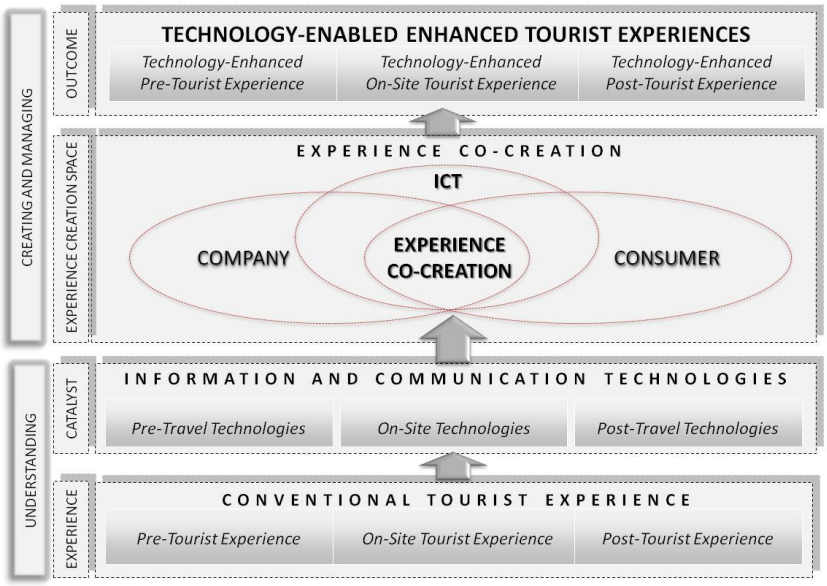
This has particular implications for the tourism industry, as one of the biggest experience generating industries in the world (Binkhorst and Den Dekker, 2009). In the traditional experience economy, tourism was represented from a company-centric view, whereby tourist consumers have hardly been taken into account when creating tourist experiences (Ek et al., 2008; Binkhorst and Den Dekker, 2009). Today, tourists need to be conceptualised in a more active role as producers rather than passive consumers of an experience (Ek et al., 2008), which is in line with Mossberg (2007) who attributes tourists the role of the co-creator of the tourist space.

This is where technology as the key tool in the creation of the tourist experience comes into play. Prahalad and Ramaswamy (2004) claim that technology has particularly encouraged the shift from the passively receiving consumer to the actively involved co-creator of his/her own experience. Binkhorst and Den Dekker (2009) underline that ICTs have become a major element in the co-creation of tourist experiences by allowing companies to engage with consumers through websites, mobile devices, portable city guides, travel guides, virtual life environments or enhanced hotel rooms. In conceptualising Technology-Enabled Enhanced Tourist Experiences, it is imperative to understand that tourist experiences cannot be staged and delivered to the consumers, but must rather be co-created together with the consumer. Technology needs to be regarded as the catalyst that functions as a means to co-create meaningful interrelations and experiences between the company and the consumer. Taking the argument into account that co-creating experiences generates value for the consumer (Binkhorst and Den Dekker, 2009), technology will thus become the key instrument for the enhancement of experiences by facilitating and empowering co-creation and thereby generating added value for the consumer. This is particularly relevant, considering the multi-phase nature of the tourist experience, i.e. prior/during/post travel. Technology does not only enhance the physical tourism space on-site, but also facilitates engagement and experience co-creation in the virtual space already before as well as after the travel in the tourist's home environment. As a result, by conflating the two areas of tourist experience and technology, this paper proposes a holistic conceptualisation of *Technology-Enabled Enhanced Tourist Experiences*, which is crucial for understanding and managing this new type of experience in theory and practice.

Appendices

Figure 1

Conceptual Model Technology-Enabled Enhanced Tourist Experiences



CONCLUSIONS AND FUTURE RESEARCH

This paper has provided a holistic conceptualisation of a novel concept, called *Technology-Enabled Enhanced Tourist Experiences*. A review of the existing body of literature on tourist experiences and information and communication technologies revealed that today tourist experiences are increasingly technology mediated (Tussyadiah and Fesenmaier, 2009). Although there exist a number of studies (e.g. Binkhorst and Den Dekker, 2009; Tussyadiah and Fesenmaier, 2009) which have recognised the impact of technology on tourist experiences, there is a huge gap in understanding the Technology-Enabled Enhanced Tourist Experience as a novel and holistic concept. Given the necessity to understand the nature of an experience for the creation and delivery of experiences in theory and practice (Zehrer, 2009), this paper has contributed by developing a preliminary understanding of the Technology-Enabled Enhanced Tourist Experience and discussing implications for creating and managing this new type of experiences in the future.

This paper postulated that a profound understanding of the changing nature of the tourist experience due to the impact of technology needs to be developed, by recognising the prevalent role of technology throughout all stages, i.e. prior/during/post stage of the travel process. Considering the fact that consumers are increasingly empowered and have transformed to active co-creators of their own experiences, it is paramount to consider new perspectives for marketing and management of experiences. This paper concluded that with a whole new range of ICTs on disposal, firstly a new type of tourist experience, namely a Technology-Enabled Enhanced Tourist Experience has emerged and secondly, new ways of creating experiences, namely, not to stage and deliver but rather to co-create experiences together with the tourist consumer, are necessary. Technology thereby represents the key, as enabler and enhancer of experience co-creation between the company and the consumer throughout all stages of the travel process.

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Appendix 14.11: Industry Report 1

Neuhofer, B. and Buhalis, D. 2013. Technology enhanced tourism experiences: 10 best practice examples explained. *Digital Tourism Think Tank*. Accessible: http://thinkdigital.travel/best-practice/technology-enhanced-tourism-experiences/.

Technology Enhanced Tourism Experiences: 10 Industry Best Practice Cases Explained

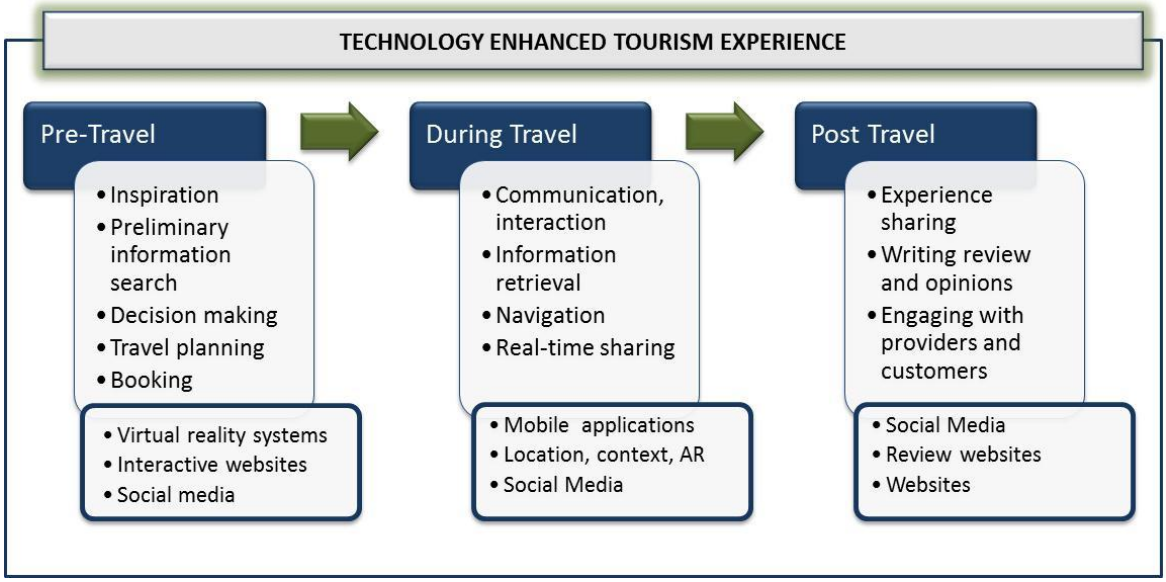
ABOUT THIS REPORT

This report was written by Barbara Neuhofer and Professor Dimitrios Buhalis of the BU eTourismLab, Bournemouth University, UK. With the rise of customer centricity and the emergence of technologies, tourism experiences have become increasingly driven, co-created and facilitated by social and mobile technologies. With its massive potential of implementation throughout the entire customer journey, pre/during/post travel, technology has been transforming the nature of contemporary tourism experiences. This report highlights 10 cutting-edge industry cases realising technology enhanced tourism experiences to reveal how businesses can instrumentalise technology to facilitate more interactive, co-created and competitive tourism experiences in the future.

INTRODUCTION

THE CUSTOMER JOURNEY: TECHNOLOGIES FOR ENHANCED TOURISM EXPERIENCES

By integrating emerging information and communication technologies, tourism experiences can be taken to new levels. The range of ICTs, by accompanying the tourist with any device, anywhere and anytime, is maximising possibilities by introducing new ways to create technology-enhanced experiences everywhere along the customer journey, i.e. pre/during/post travel. In this process, ICTs support tourists throughout numerous activities, such as inspiration, preliminary information search, comparison, decision making, travel planning, communication, engagement, retrieval of information as well as post-sharing and recollecting travel experiences.

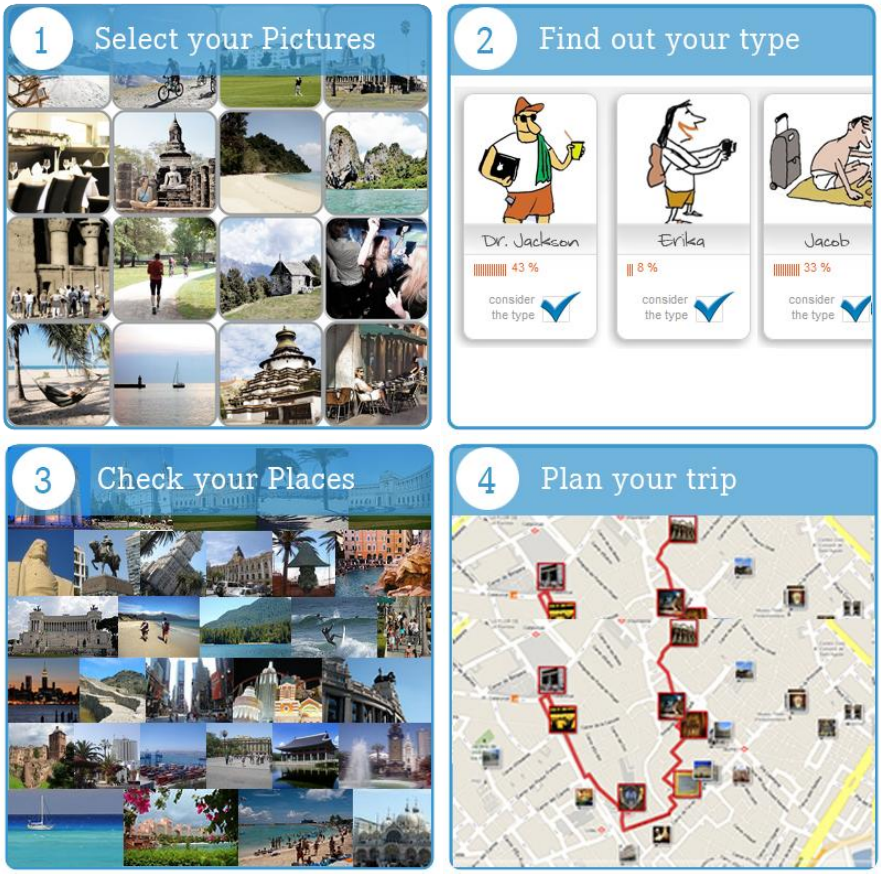


This means that with technology, the tourism experience is no longer restricted to services encounters on-site but is extended and dynamically created in both physical and virtual experience spaces. For tourism providers to remain competitive, one of the main challenges will thus be to understand how use technology as a catalyst of change for the creation of successful, compelling and valuable tourism experiences. This report aims to highlight selected best-practice examples of the tourism industry that currently successfully realise technology-enhanced tourism experiences throughout various stages of travel. These 10 cutting-edge best-practice examples include: PixMeAway, Australian Airports, KLM, VisitBritain, Airbnb, Amazing Thailand, Hotel Lugano Dante, Sol Meliá International, Inamo Restaurant and TripAdvisor.

1. PRE-TRAVEL-STAGE
TECHNOLOGY-ENHANCED TRIP INSPIRATION

PIXMEAWAY

Information and communication technologies (ICTs) now support tourists throughout a range of travel activities from inspiration, preliminary search, to comparison, decision making and booking. In the pre-travel stage ICTs have unclosed new possibilities and ways for tourists to get inspired, receive personalised recommendations as well as plan and pre-experience tourism destinations online.

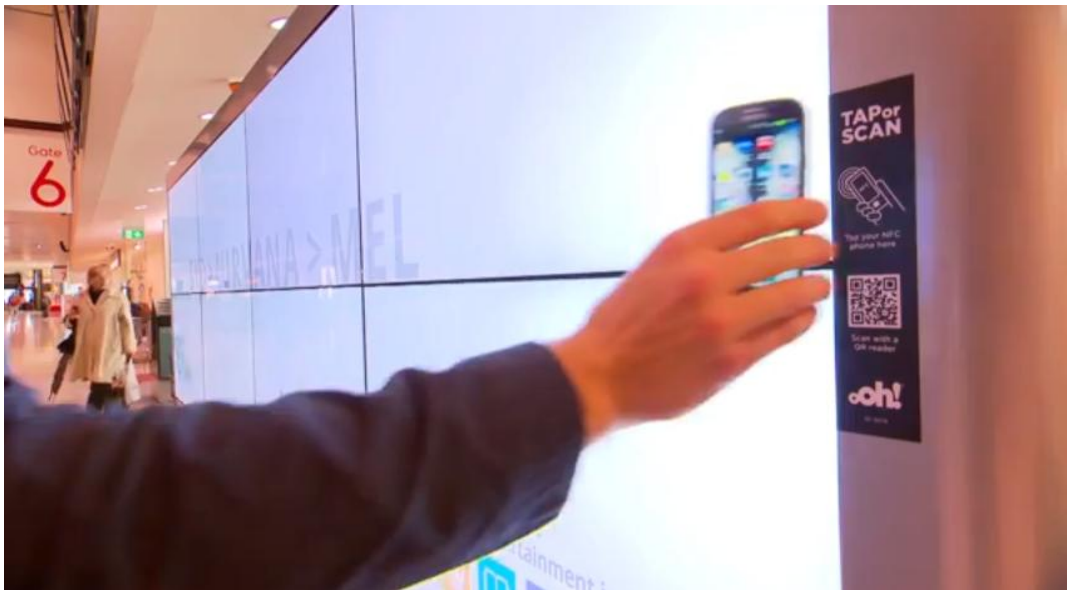


PixMeAway, developed by Pixtri OG, is a successful example of a picture-based search engine that allows intuitive travel inspiration and planning. Tourists can choose from a range of images and choose their travel type through which the ideal travel destinations recommendations are offered. Through a unique picture based search algorithm, PixMeAway currently provides information on 120,000 places to visit and things to do around the world. With the idea of “a picture is worth a thousand words”, the platform provides an innovative solution for tourists to enhance their early stages of travel inspiration and planning in an interactive and personalised way.

2. TRANSIT-STAGE
TECHNOLOGY-ENHANCED AIRPORT EXPERIENCE

AUSTRALIAN AIRPORTS NFC SERVICE

A number of different technologies come into use while the tourist is on the move, in transit or at the destination. The increased mobility and availability of ICTs have rendered mobile technologies key tools, by enabling information access and retrieval anywhere and anytime.



The Australian airports Sydney, Melbourne and Brisbane provide recent examples in which travellers can now interact with Google Play content by tapping an NFC tag or scanning a QR code featured on 39 digital advertising panels managed by Ooh! Media. Android phone users can also download selected books, movies, music, magazines or apps directly to their phone using Ooh's free airport WiFi. This campaign is a real example of how the traditional billboard and technology can work together to create a deeper connection between a brand and an individual. It also demonstrates how well online and digital billboards work together, and how smartphones can drive deeper forms of engagement and enable consumers to connect and enhance their experience on-the-move online.

3. TRANSIT-STAGE
TECHNOLOGY-ENHANCED SOCIAL FLIGHT

KLM

In the context of travel and tourism, tourists undergo a number of technology-facilitated touch points including booking and reservations. In the case of KLM Social Seating initiative called *Meet and Seat*, technology comes into place through social media engagement by facilitating pre-travel customer-to-customer co-creation online.

The KLM Meet and Seat program enables tourists booked on certain KLM long-haul flights to find a travel companion within the same flight. In this case technologies allows passengers to view other passengers' Facebook or LinkedIn profile details and see where they will be sitting before they fly. For instance, people might search for other people who work in the same industry of field or are travelling to the same conference, event or venue. While many businesses are using social channels just to reach people with their social advertising, KLM is taking a new approach to customer involvement and social engagement. It opens new opportunities for customers to connect, co-create with each other through their profiles online to make their real flight experience a more socially engaging, meaningful and valuable one.

4. ON-SITE STAGE
TECHNOLOGY-ENHANCED LOCALISED SOCIAL EXPERIENCES

AIRBNB

With new technologies being developed, new types of tourist activities are emerging that both transform conventional experiences and will result in the emergence of new types of tourism experiences. By using technology, tourists are now able to connect and create new social experiences more than ever before. Beyond interactions with tourism providers, destination organisations or other consumers, ICTs are now able to connect with locals for more social and localised tourism experiences.

Airbnb is a website matching up homeowners with tourists and backpackers wanting a place to stay that can be accessed directly through the web as well as mobile devices. Tourists in search for a place to stay can find very unique opportunities when exploring a destination, ranging from a shared flat in London to a castle in Edinburgh. With its innovative platform, tourists can connect with the owners of the accommodation for a more local and authentic travel and place experience. It is a new opportunity for tourists to experience to live like a local and get a chance to immerse in the local way of live. This example shows that new platforms can lead to a new type of experiences that shift away from standard to more social, personal and localised experiences.

5. ON-SITE STAGE
TECHNOLOGY-ENHANCED DESTINATION EXPERIENCE

VISIT BRITAIN

It is increasingly important for destinations to keep up with the dynamics of the market and innovate in order to remain competitive by adopting the most recent ICT applications within their destinations. The implementation of social media sites allows tourists not only to engage but also to post, share and co-create their experiences with destinations and other tourists online.

For instance, VisitBritain's Love UK Facebook page has allowed the organisation to develop an extensive platform of social engagement. Moreover, their mobile application LoveUK is completely consumer generated by listing the top 100 locations of the UK ranked by tourist's Facebook check-ins. This means that VisitBritain places travel suggestions in the hands of tourism consumers who determine the must-see places of a destination together through their collective behaviour and personal preferences. In that it uses a bottom-up appraoch, VisitBritain represents a successful example of consumer empowerment for technology-facilitated co-creation experiences in the tourism destination and the online space at the same time.

6. ON-SITE STAGE
TECHNOLOGY-ENHANCED DESTINATION EXPERIENCE

Amazing Thailand

In the increasingly competitive tourism industry, DMOs need respond to changes and embrace the opportunities offered by emerging ICTs. In order to facilitate successful destination experiences, technologies will provide critical tools to extend the destination space and create more engaging experiences both in the physical and virtual space online.

Amazing Thailand can be considered as a best practice example of a technology enhanced destination experience in the virtual space. Thailand's DMO website features tools, such as videos, images and user-generated stories that particularly enhance the virtual pre-travel experience by inspiring, pre-living experiences and encouraging individuals to come to Thailand. In addition, Thailand provides a unique platform for customer-to-customer interaction by encouraging tourists to tell their stories and share their past-travel experiences for future tourists online. By doing so, consumers can engage in a virtual space that allows them to emotionally engage and pre- and post-experience the destination online.

7. ON-SITE STAGE
TECHNOLOGY-ENHANCED PERSONALISED
HOTEL EXPERIENCE

HOTEL LUGANO DANTE

With increasing competition in the domain of tourism experiences, one of the key areas will lie in the exploration of maximising technology use for experience personalisation. Tourism organisations and hotels are increasingly looking into enabling tourists to personalise services and experiences by giving them the possibility to change settings, adapt to their personal preferences and determine information for their specific needs. Recent examples show that technology will provide the key tool to collect, store and retrieve customer information to facilitate more personalised tourism experiences.

Guest experience constitutes the number one factor when choosing a hotel. Technology provides huge potential to enhance the overall guest experience by engaging guests and staff throughout the multiple touch points during a stay. The Hotel Lugano Dante can be considered as a best-practice example of technology use for personalisation. By developing a unique concept called HGRM, a digital Happy Guest Relationship Management system, members of staff can store, access and retrieve guest information and dynamically create personalised guest experiences throughout all touch-points and phases of the stay. Starting from the guest reservation, confirmation, arrival, through restaurant visits and in-room experience, guests are provided with a fully personalised hotel experience.

8. ON-SITE STAGE
TECHNOLOGY-ENHANCED SOCIALLY ENGAGING HOTEL EXPERIENCE

MELIA HOTELS INTERNATIONAL

The increasing customer diversity and demands are changing the landscape of the hotels. In order to stay competitive hotel businesses need to realise the potential of social network sites, such as Facebook and Twitter, to engage, communicate and co-create with tourists not only offline but increasingly in the online-world.

Meliá Hotels International is a best-practice example of the hotel industry that has taken a new step in meeting the expectations of an increasingly experiential and social customer through an innovative technological approach. Meliá Hotels International have recently launched a new program, which makes its innovative @SolWaveHouse Hotel become the first ever "twitter experience hotel" in the world. Through an innovative use of technology in the hotel, it facilitates interactions between social networking fans' and customers, to provide a new type of experience of fun, new friendships, surprise, excitement and “buzz” to the young audience. The main engine of the whole experience is the virtual community called #SocialWave, only available from the hotel’s Wi-Fi, which guests can access from their devices and registering with their twitter accounts. Two Twitter Concierges are devoted exclusively to meet guest requests via Twitter and generate conversation in this virtual community, acting as a link between all of them. This unique form of maximised co-creation allows guests to meet, chat, get to know each other and share their experiences online.

9. ON-SITE TECHNOLOGY-ENHANCED IMMERSIVE RESTAURANT EXPERIENCE

INAMO RESTAURANT

Emerging technologies are not only altering current experiences but also lead to new types of tourism experience. While technology can enable or enhance travel activities and experiences, technology can also become the core experience itself.

The restaurant business is competitive, and restaurateurs increasingly need to add customer value through innovative approaches. The Inamo Restaurant has pioneered as a best-practice case introducing E-Table, an interactive ordering system which uses a combination of table touchpads and overhead projection. This technology provides a fully digitalised dining experience that is in the control of the customers, who can place orders, watch their food being prepared, change the ambiance of the table or play games. The innovative example of Inamo shows how to integrate technology into the restaurant environment, thereby transform the traditional experience, and provide customers with a holistic immersive technology-enhanced experience.

10. POST-TRAVEL
TECHNOLOGY-ENHANCED EXPERIENCE
SOCIAL SHARING AND REVIEWS

TRIPADVISOR

In the post-travel stage, ICTS help tourists to enhance their experiences through recollection and sharing upon the return home. Technological platforms that allow for sharing multimedia content, such as photographs and videos with others are particularly valuable. The post-travel stage is critical for tourism providers and destinations to engage with tourists in order to co-create, socially share and write review about their lived experiences. While allowing tourists to re-construct their past experiences, these platforms also demarcate the beginning of other tourists' pre-travel stage in that they can look for inspiration, information and opinions that is critical for travel decision making.

TripAdvisor is amongst the most successful social networking sites and virtual communities in tourism that facilitates the sharing and reviewing of all hotels and tourism activities around the world and empowers individuals to engage in discussion forums to communicate and share with each other. The system provides users with independent travel reviews and comments written from TripAdvisor members and expert advisors rendering it a powerful platform for customer-to-customer interaction and post-travel co-creation, outside the provider sphere, among peers.

Appendices

ABOUT BARBARA NEUHOFER

Barbara Neuhofer is a PhD Researcher at the eTourismLab at Bournemouth University, UK, researching the cutting-edge area of Technology Enhanced Tourist Experiences. Barbara has recently written a number of publications about the role of ICTs in tourism experiences, co-creation and the marketing and management of experiences in tourism destinations. Recently Barbara has also been recognised by the Institute of Travel and Tourism for her achievements and cutting-edge research by being awarded the ITT PhD Student of the Year 2013 Award. Barbara is also an active member of the eTourism community organises and engages in numerous industry events around the globe and serves as a board member of the International Federation for IT and Travel & Tourism (IFITT).

ABOUT DIMITRIOS BUHALIS

Professor Dimitrios Buhalis is a Strategic Management and Marketing expert with specialisation in Information Communication Technology applications in the Tourism, Travel, Hospitality and Leisure industries. He is currently Director of the eTourism Lab and Deputy Director of the International Centre for Tourism and Hospitality Research, at Bournemouth University in England. Dimitrios is also the President of the International Federation for Information Technologies in Travel and Tourism (IFITT).

BOURNEMOUTH UNIVERSITY E-TOURISM LAB

This exciting new research Lab, led by Professor Dimitrios Buhalis and Bournemouth University, explores cutting edge information and communication technologies, alongside e-based strategic management and marketing for the tourism and hospitality industries. The eTourism lab's mission is to push back the barriers of knowledge on eTourism and through Information Communication Technologies (ICTs) empower policy making and strategic competitive advantage.

THE DIGITAL TOURISM THINK TANK REPORTS AND BEST PRACTICE

The Digital Tourism Think Tank is a new initiative which aims to provide a platform for knowledge exchange, best practice, events and workshops and benchmarking for the tourism industry. The Think Tank is supported by Yahoo! and designed specifically to support the work of CEOs, Marketing Managers and e-Marketing Managers working in DMOs who are responsible for creating engaging and inspiring digital campaigns.